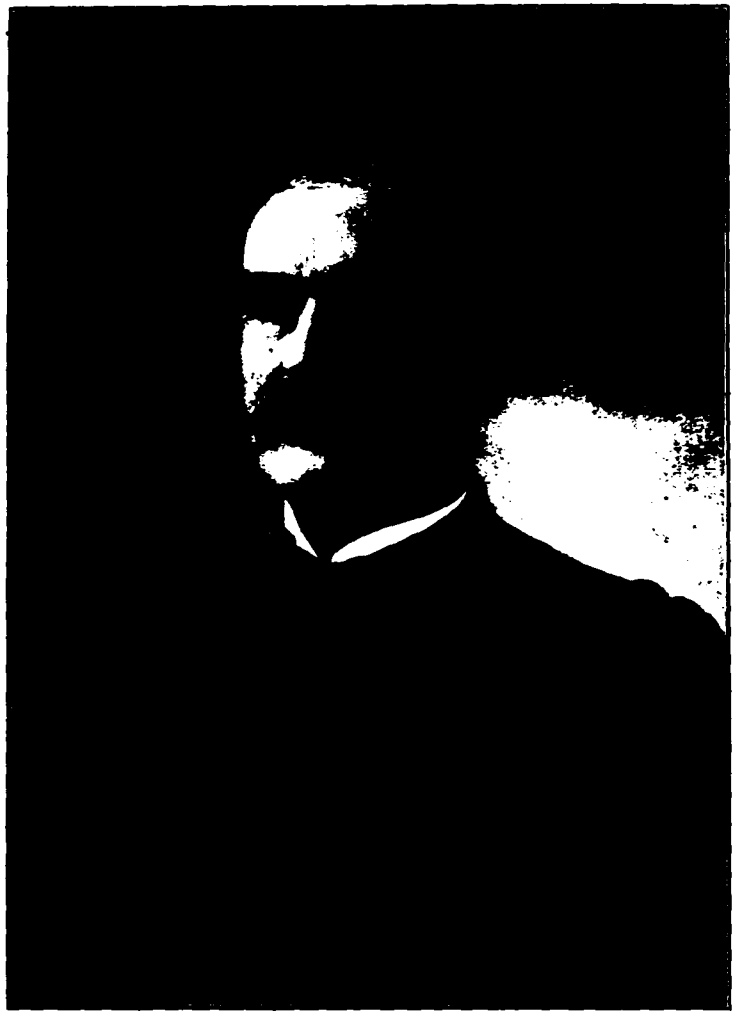
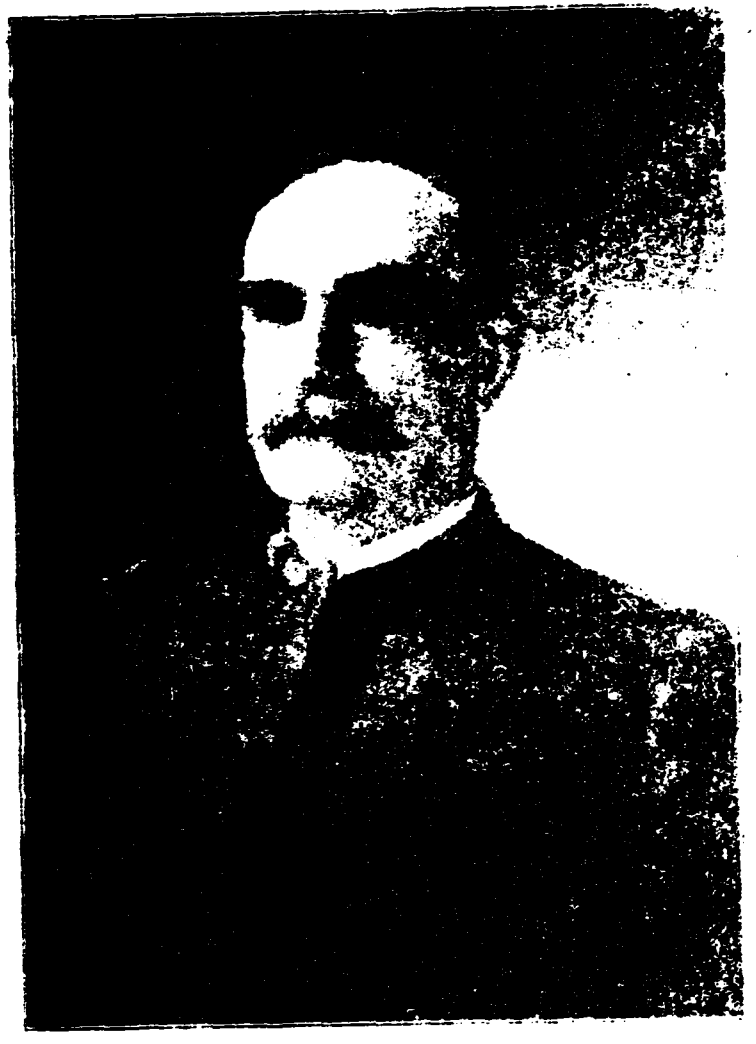


BRIGADIER GENERAL FRANCIS MOORE.
U. S. ARMY. RETIRED.



JOURNAL

OF THE

United States Cavalry Association.

VOL. XVI. JULY, 1905. No. 57.

THE RESOURCES OF RUSSIAN RAILROADS IN PEACE AND WAR.*

BY CAPTAIN S. L'H. SLOCUM, ADJUTANT EIGHTH CAVALRY.

THE system of Russian railways has made colossal progress during the last twenty years, especially since 1890. It is on the Central Asiatic as well as the Trans-Siberian lines that the development has been the greatest. The Czar has ordered that they should be built; that sufficed to insure for their construction all the rapidity and energy desired.

Their conception may have been derived from economic reasons as well as from military ones

Russian official advertisements, notably a book concerning the Trans-Siberian, which has been distributed at the Paris Universal Exposition, pretend, naturally, that their reasons are purely economic, and they represent the Trans-Siberian line as a commercial route for exportation between the Far East and Western Europe, the ports of the Baltic Sea, and even Archangel, and as of the highest importance in regard

* Extracts from report made while military attache in Russia, with modifications and additions bringing the subject matter up to date as far as possible.

to the unity between nations. In opposition with this idea, we see the opinion develop itself that the Trans-Siberian Railroad will be able to transport only a small proportion of the goods moving between Eastern Asia and Europe. Transport by sea will always cost less, when it concerns large quantities of goods. The lowest favor tariff granted up to now by the Russian government for traffic with Siberia amounts to $14.42 per ton for the distance Libau-Irkutsk, and refers to heavy machinery, etc. The North German Lloyd undertakes the transport between Hamburg and Shanghai by steamer at the rate $5.35 and $7.75 per ton, a tariff which will always make it possible to introduce goods brought by sea into the interior of Siberia, under much more favorable conditions than the Trans-Siberian Railway will permit.

The policy of railways and customs tariffs of the Russian government with regard to this situation has no remedial power. These high tariffs, to which even the State railways of Russia must submit, can only be paid for goods of great value, among which must be classed tea and silk, the mails, and the transport of passengers.

The Trans-Siberian Railway will undoubtedly attract these, although a very long time may ensue, as the rails are so light—eighteen pounds per foot—that goods trains can only advance at the rate of six and a half miles per hour, which renders the transit time of goods for the present, longer by land than by sea. When the rails will have been changed (this work has already been started) and the road-bed, which at present is of the most elementary kind, is strengthened, and the gauge broadened to the standard usually adopted in European Russia, goods trains will be able to run at the rate of sixteen and a half miles an hour; all of which alterations, according to actual calculations, will take from seven to ten years to accomplish; then the Trans-Siberian Railway will be in a position to transport precious products coming from the Far East. In the presence of this reduced traffic it will be impossible to receive any dividends from the enormous capital employed for the construction of this line. Comment is unnecessary on the economic value

of the line in Central Asia, which traverses several hundred miles of steppes.

One is forced then to the conclusion that the establishment by Russia of the Asiatic lines, is primarily for military purposes, that is to say, with the idea of using these lines for the transport of troops. Viewed in this manner, they are undoubtedly useful, but the extent of this usefulness must not be exaggerated.

Both the Trans-Siberian and Central Asia lines are built with single track; immense distances separate the stations: the supply of water often presents difficulties (in Siberia, frozen ground, drought in the Trans-Caspian sand-lands) and both lines are much exposed to interruptions in the traffic, arising from climatic conditions (accumulations of sand in the Trans-Caspian; frost, snow and sudden thaw in Siberia).

The great sterility of portions of the lands in which both the lines are built, will never permit them to be used exclusively for the transport of troops, even for a short period, the settlements along the lines seriously demanding the transport of provisions and of indispensable goods. But, even in admitting that the two Asiatic lines could be employed exclusively for military requirements, and that nothing was lacking, what could be the military value of a single track railway with such distances between its stations (twenty miles), and a speed of from six to ten miles? As to the Trans-Caspian line, it is to be noted that it has not yet been joined to the system of Russian railways, and that the work started on the connecting branch of Alexandrov Gai-Tschadsy (or Orenburg-Taschkent) has been delayed for want of money. Troops en route to central Asia have to cross the Caspian Sea (Baku-Krasnovodsk) before embarking on the Trans-Caspian line. The administration of the two lines is badly organized; accidents are of frequent occurrence and the Eastern Siberian line has delays of 47.5 per cent. Under these circumstances the roads must be considered as unfit for the transportation of large numbers of troops, such as would be required, for instance, in a war with England. They are an eminently useful means for dominating the Asiatic

tribes, but we cannot recognize that they would have the least strategic value in any war Russia would have with a strong power, either in Asia or in Europe. In case of war with Germany, for instance, neither of the two lines would be able to bring back the troops from Eastern Asia or from the Trans-Caspian territories in time to permit them to be of any use on the immediate Western frontier.

It may be interesting to study the two lines more closely. In case a European war occurred, the railway system of Russia in Europe only would be of account, and even then only partially, as is seen by the table giving the stations of the Russian troops, recently forwarded to the Department, entitled "Dislocation of the Russian Army," which shows five army corps in the Vilna district, five army and two cavalry corps in the Warsaw district, two army corps in the Odessa district, and five in the military district of Kieff, making about 400,000 men guarding the line Odessa to Riga, with about 125,000 men in direct support at Kieff. With the exception of the Caucasus corps and of some formations in time of peace, and of Cossacks in garrison to the east of the line, St. Petersburg, Moscow, Orel, Kharkow, Rostoff on the Don, are all situated to the west of the above named line.

Undoubtedly the railroads of European Russia have also greatly developed. From 1880 to 1902 the total system of railways (including the railways of Caucasus and of Finland) increased from 14,069 to 30,691 miles, and has still further considerably increased since that year. The development of her railway system is inferior to that of either Germany or Austria-Hungary. This phenomena may be striking at first sight, but in the whole it is explained by the state of culture of the country, which renders very slow the prosperity of railroads. Certain lines, among others that of Yaroslaw-Archangel, have completely stranded in their exploitation, and the government has had to absorb them. The government, probably for military reasons, has always sought to control as many lines as possible, to such a point that of the total railways of Russia, the proportions belonging to the State, and controlled by it, have progressed from three per cent. in 1880 to sixty per cent. in 1902. This fact certainly marks an immense success.

The State has built, moreover, some railways which are purely strategic and which yield absolutely nothing, of which we will speak later on.

The Russian railway system is still in its development; some lines are under construction, and others under consideration. In the first category are comprised the lines Poltava-Kieff, St. Petersburg-Witebsk-Shlabin, Witebsk to Kieff, and the Kieff to Kovel. The last mentioned has some strategic importance. Notwithstanding all these enterprises, the Russian railway system still presents great defects. The local lines (secondary and branch lines) are especially wanting, and prevent the main lines from showing their political and economical effects in the more remote parts of the territory. In this manner the Russian railway system is much less dense than in most of the other countries of Europe. For every 100 square kilometers Belgium has 20.6 kilometers of railways, Germany 9.2, Austria-Hungary 5.2, and, finally, Russia .8 kilometers.

From a military point of view, the spareness of the Russian railway system causes, in the first place, a great loss of time in placing armies on a war footing in case of mobilization. The preparation of the army for a war footing consists, on the one hand, in placing on this war footing the effectives of time of peace, by the recall of the reserves, etc.; and on the other hand, in the transport of the mobilized troops toward the frontier. In Austria and Germany, the men recalled to service will avail themselves of the secondary or branch lines in order to join their corps, and very few of these men will find it necessary to cover a part of their journey by marching. In Russia, the contrary takes place. The great mass of reserves called out will not be able to avail itself of any railway; the men, and very often the transports drawn by horses, will be days on the journey before they reach the corps to which they are attached. Although it would appear that the war administration has taken steps to obviate this inconvenience, the great delay in mobilization, as compared with neigboring armies, still exists, regardless of all the dispositions ordered. Were it even possible for the advance of the Russian army to be effected as rapidly as it

would take place in Germany or Austria, it could only enter into action later, because of the slowness of its mobilization.

A single glance on the map of Western Russia shows the scarcity of railways of that terriotory. The Russian railway system only touches the extensive Austro-German frontier at Eydkunen-Wirballen; Prostkin-Grajevo, Mlawa, Alexandroff, Granica, Ruduja and Podvolochisk, and of these seven lines, only those of Vilna to Wirballen and of Warsaw to Granica have double tracks. Moreover the latter, which has not the Russian normal gauge, but the Continental gauge, must not be taken seriously into account in reference to the concentration in the zone of assemblage, the troops and material coming from the interior being directed to Granica, via Warsaw, having to submit to a trans-shipment in this latter town. An examination of the territory surrounding the frontier, gives one an impression that Russia does not care to build too many branch lines on the German and Austrian frontiers, for the single reason that the Russian army will be mobilized so late, that the frontier would have been crossed by hostile armies long before her troops in sufficient numbers to check them could reach it; and the railways, if built, would be of value only to the enemy. It is true that on account of the different gauge, they could not be made use of at once by a hostile force (with the exception, however, of the Warsaw-Vienna Railway), but the transformation of the Russian gauge to the Continental one, by displacing one of the rails, is, in our days, only child play for railway troops.

Thus, it is easily understood why Russia hesitates to construct railways to the confines of the kingdom of Poland. Notwithstanding all the economic requirements imperiously claiming the establishment of these railways for transportation needs to Western Europe, the Minister of War, General Wannovsky, was formally opposed to their construction in Russian Poland. All the efforts made in this direction by different ambassadors met with a categorical refusal, based on military reasons. When Minister of War, General Kourapatkin, a man of liberal ideas, has ended by acceding, and to him is due the Warsaw-Kalisch Railway now being constructed, while other lines are under examination, awaiting money for their construction.

An examination of the map of Russian railways seems to indicate that the zone of assembly will be at the terminus of lines with double tracks. On the banks of the Niemen it would be the region of Kowno-Wilna-Grodno; in the southwest the line Kovel-Rovno-Kasatin; then the triangle of Warsaw-Byalistock-Brest. One may be struck by the convergency of the great lines in the heart of the kingdom of Poland, without passing beyond the Vistula or the Narew. The problem of finding in this region the place for a first assembly of a large portion of the Russian army at the risk of abandoning temporarily the west of Poland, seems easy of solution when one considers that the territory in question is protected by formidable fortresses. The fortress of Brest, Yvangorod, Warsaw, Novo-Georgievsk, Sjerock, the fortified line of the Narew, as well as of the Osoviek, trace in all evidence the parapet behind which the Russian troops could effect their assembly at ease. The details of these assemblies are naturally made public, but it is evident that the line of Narew (Lapy-Ostrolenka-Malkin, exclusively a strategic railway constructed by the State, and almost without traffic in time of peace), as well as those of Byalistok-Brest-Kholm, Malkin-Siedletz and Ostrolenka-Piliava, have been established in order to furnish eventually the points of debarkation in the direction of the north to south, and vice versa.

The somewhat flat country has rarely opposed itself to the tracing and leveling of the lines; steep grades and small curves are scarce: the numerous marshes and the deep and often varying beds of certain rivers have necessitated immense embankments, while the northern character of the climate imposed the creation of vast enclosures and hedges to protect the line against snow. The road bed is generally less solid than in Western Europe, and for want of gravel, etc., the ballast is very defective, and is at times composed of moving sand. Formerly the sleepers were composed of course half-stems of sylvester pine flattened at the places where the rails were laid; oak sleepers are now rapidly taking their places. The rails, of various types, and in many

cases of ordinary iron, are in general lighter than those employed in Western Europe. The bridges, arches, etc., which were formerly of wood, are now being replaced with constructions of iron. In general it may be said that the Russian railways do not permit of the running of heavy trains at a high speed.

II. THE LINES.

The organization of the stations is, in general, in harmony with the slow speed. Only the capital lines possess eccentrics and electric bells; on less important lines the switches are worked by hand. The stations are in general well supplied with water, but turn-tables are rare and are not of modern type, and the number of repair shops is far from answering the requirements. The traffic of goods being very small, platforms are often missing; whereas in the very heart of the kingdom of Poland enormous military platforms are found at the stations, which are probably intended for the debarkation of troops. It may be said, however, that the Russian military trains carry the material necessary for the construction of temporary platforms.

The block system exists in part on certain lines with double tracks, principally on the great strategic lines, although they are not always in use in time of peace, while in France and other countries automatic blocks are already being employed. Signal stations of the most rudimentary nature are an innovation quite rare in Russia, although the great distances between the stations make them doubly necessary.

In studying the railway transport resources which Russia will have in time of mobilization, we find, in starting with the Baltic Sea:

(1) The line Gatchina-Taps-Walk-Riga-Muravieff-Koschedary which is united by the branch line belonging to the three companies (the Baltic, the Riga-Orel and the Libau-Romny lines). These lines, which run for the most part through German territories, and which are attended by a German personnel, are in a good condition. But, as there

are distances of thirteen miles between some of the stations (and especially toward the final section of the Muravieff-Koschedary Railway) one must conclude that were the line supplied with the necessary number of sidings, it could not give passage to more than twenty trains a day both ways. This railway must undertake the transportation of the Eighteenth and Twentieth Army Corps (Jurief and Riga). Counting, as we may, that the transportation of a mobilized Russian army corps will require two hundred trains, and that it will take ten days at least, if not many more, to put them aboard, and adding thereto the time required to cover the distance and to disembark the troops, even a whole army corps will have to be directed on the much better equipped railway of St. Petersburg-Vilna-Warsaw, which controls the branch line of Walk-Peskow-Riga-Dvinsk, etc., necessary for this purpose.

(2) The line St. Petersburg-Vilna-Warsaw must absolutely be utilized as a main line of first order, inasmuch as it belongs to the State and is one of the best equipped and best kept railways in the Empire It is true that this railway has also distances of thirteen miles between its stations, but it is abundantly supplied with sidings, especially between Vileika and Landvaravo and between Byalistok and Lapy. The railway has a double track only as far as Walkin, which has no importance, as it is probable that, for the reasons mentioned above, the troops will not go beyond this point. Lacking more detailed information, it is difficult to form an exact idea of the traffic of the line; it is probable, however, that in all cases it can not accommodate more than fifty trains per day running in both directions. St. Petersburg and its environs will furnish the Corps of Guards with two divisions of cavalry and the First Army Corps; it will transport besides the army corps which will be brought to it from the Baltic Sea, that is to say, a total of 350 trains, for the running of which it will require at least seven days. Thus it seems that the transport of the three army corps in question will require a period of seven days at least. Nevertheless the Second (Grodno) and Third (Vilna) Army Corps are also stationed on this line; but in admitting that because of its proximity to the

frontier, the Second Corps may reach its position by marching, and that the Third Corps should be directed on Kowno-Wirballen, we may conclude that this main line may be in a position to accomplish all that it is expected to do.

(3) The third great transport line, the Moscow-Brest-Warsaw Railway, will have a great task to perform. It is also one of the most powerful lines of Russia, but it is not as good a railway as the Warsaw-St. Petersburg line, and its daily traffic can not exceed forty trains. This railway must transport the Grenadier Corps (Moscow) with three divisions of infantry; the Thirteenth (Smolensk), the Sixteenth (Vitebsk), the Fourth (Minsk) Army Corps, that is to say, at least 450 trains, which it will require eleven days to run. Evidently this is too much. As we have seen that it can not divest any of these trains to the St. Petersburg-Warsaw line, but could only effect this on a line situated more to the south. As such we find:

(4) The Shabinka-Briansk Railway and its extension toward Moscow via Kaluga. The Shabinka-Briansk line belongs to the system of the Polish Quadrilateral (Vilna-Luminez-Roveno-Byalistok-Baranovitch) railways which have been built with a purely strategic intention, at the cost of great technical labor. These lines run across desert, uninhabited territories deprived of means of communication by the pripit marshes, and betray at first sight their purely strategic military qualities by the presence of numerous sidings and barracks at the stations. On the one hand they take up a portion of the trains bound for the west of the main line Moscow-Brest; on the other hand they permit that the forces of the northern theater of war be supported by those of the south, and vice versa, without being troubled by an advancing enemy. The Moscow-Briansk-Shabinka Railway can certainly not put more than twenty trains a day in motion. In employing this road exclusively for the surplus transportation of the main railway, Moscow-Brest, this latter could perhaps accomplish the transportation of the Fourth, Sixteenth and Thirteenth Army Corps, as well as of the Corps of Grenadiers, in a period of seven and one-half days at the very least. This could well be realized, because the other lines, which must

be taken into account in case of an assembly in the west, are less overcrowded. These lines are:

(5) The Kursk-Kieff-Kasatin-Sdolbunevo Railways. This line belongs to various administrations, and cannot supply more than forty trains. In associating with it the Tula Orel-Kursk Railway, on which a double track has just been laid, it could transport in six days the Seventeenth (Tula) and the Ninth (Kieff) Army Corps, if, from Woroshba, it was not obliged to take up a greater part of the Tenth Army Corps (Kharkow).

(6) The single track railway of Kharkow-Krementschug-Suamennka-Zvietkoff Shmerinko can do but little work.

(7) The Sevastopol-Sinelinkoff-Dolinsky Suamennka-Birsula Railway belong to four administrations; it is mostly a single track line, a portion of which is in a bad condition and will not supply more than fifteen trains a day. It would therefore be at least seven days in transporting the Seventh Corps (Sevastopol, at Virsulo). The Eighth Army Corps (Odessa) will have at its disposal:

(8) The powerful line of Odessa-Shmerinko-Tscherny-Ostroff, which could accomplish this service in three days on condition that no supplementary freight is imposed upon it by the railways mentioned above.

In the estimates which precede, I have only spoken of the large transportation coming from the interior, without taking into account that which the service of the Fifth, Sixth, Fifteenth (Warsaw), Fourteenth (Lublin), Nineteenth (Brest), and Eleventh (Rovno) Army Corps, as well as the isolated corps of cavalry, the brigades of rifles, etc., which are stationed along the frontier in time of peace, will necessitate. This increase will heavily tax the facilities in question, and consequently will much decrease the running time. It might happen that all would take place otherwise than we foresee, but it is evident that all trains taken from any one line would of necessity have to be carried by some other line, so that in general, these averages of traffic, given in round figures, will scarcely be modified by a change of itinerary.

In any case, these movements by rail cannot be effected under better conditions than those above indicated. If, in

the event of a conflict with a European power, the Russians were obliged to bring in their Caucasian troops, the Caucasus railways, which are very badly organized, would delay them from entering the field for a considerable time.

To sum up, one may say that theoretically the Russian army, once mobilized, on a war footing and ready for a campaign, requires an entire week to entrain itself, though in reality it will probably take longer, because in the above calculations no account has been taken of the fact that the greater portions of army corps are not stationed at the headquarters of the army corps, but must be assembled there first.

To this minimum of seven days, which the Russian army requires to embark, must be added the time necessary to reach the frontier. This lapse of time is, for instance, thirty-four and one-half hours for the journey from Dunaburg to Ostrolenka and sixty-eight and one-fourth hours for the distance between Moscow-Brest.

III. RAILWAY MATERIAL, ETC.

The increase of rolling stock in Russia has not kept up in proportion to the increase of the railways under operation. In 1902–3 the total length of the lines in operation and under construction in the Russian Empire was about 40,000 miles, as compared with 207,000 miles of main line tracks in this country.

We have seen from the preceding to what degree the Russian railways differ among themselves as concerns their condition, the organization of stations and in the distances between them. This may also be said of the operating material which offers the most striking contrasts.

With regard to the construction of locomotives, Russia has sought with success to render herself free from foreign industry. If, up to 1885, a great proportion of the locomotives in Russia came from the works of Vorsig in Berlin and Siegel in Vienna, we see Russia herself actually constructing most of the locomotives at the works of Putilow, Alexandroff,

Kolomno, etc., giving but some few orders to us. The Russian-made locomotive costs 36,200 roubles, the German 31,200 roubles, and the Baldwin locomotive 26,800 roubles. The figures quoted are the prices paid on delivery in Russia. The types of locomotives are of the most varied. The material, especially on the Eastern line, is very old type, and in 1899 the locomotive park of the Moscow-Kazan Railway was running relics constructed in 1858 and 1859, and even some locomotives of the 1850 type. In general, the very oldest engines are sent to the eastern and southern railways of Russia. A large part of the locomotives—about 4,000—date since the year 1870 and 1879. The traffic is slow and claims the constitution of immense trains running at long intervals, and which are therefore very heavy. One often meets express trains drawn by three or four locomotives; light engines and tender engines are rare. It must be recognized that on the main lines, they use, just as in Germany and Austria for the rapid trains, very powerful engines; but the majority of these locomotives are of an old model. To be able to employ, for the transportation of mobilized troops, numerous and powerful engines, is evidently an advantage. Fault is found with Russian locomotives made at home; they are said to be full of technical errors. One thing is very clear, that is the numerous repairs which Russian-made engines require; and this leads one to suppose that the material employed is of poor quality and that the locomotives are not conscientiously inspected before leaving the works. In case of mobilization, the various kinds of fuel used will singularly aggravate their already bad construction. In Russian locomotives anthracite, coke, charcoal, wood, naptha, petroleum residue and peat are used, which exercise a great influence in their working power. The cost of home-made locomotives in Russia is, besides, much higher than those made in Western Europe and the United States.

The car shops, as well as those for the engines, are very unfit, and in general much behind those built in Western Europe. Though the Westinghouse air brake is used on all the main lines for passenger traffic, few freight trains have them. Open trucks are in too small a number, and

this will create great inconvenience in the transportation of the material for the operations of the army. The Russians are not partial to open cars which facilitate theft. The disposition taken for the embarkation of military trains of material for the construction of platforms, of which mention was made above, constitutes perhaps an advantage, and it appears that quite recently trials have been made with kitchen cars attached to the troop trains, which have given entire satisfaction.

In case of war, the utilization of the rolling stock will meet with great difficulties through the cars being dispersed over an immense territory, by which it will be impossible to carry the material to the necessary places, that is to say, to the stations where the troops are embarked, and furthermore, in some instances through an evident unwillingness displayed by the numerous railway companies to rapidly accomplish the necessary exchange of material.

This is shown each year in the shape of stoppages in the service at the time of the harvests, and these inconveniences become catastrophes when, in the time of famine, it is a question of rapidly delivering great quantities of cereals to the stricken districts. The scale of the working power of the railway system does not consist in the length of their lines, but in the number of trains they can run, or still better, in the number of miles these trains can cover. It is in this point of view that Russia remains behind other countries. It is sufficient for the moment to show in general that the Russian rolling material is not at all in a position to face the sudden needs of transportation of considerable masses. Like France and Austria, Russians do not miss the occasion of using to the utmost the working power of their railways during maneuvers. It is sufficient to observe that the maneuvers take place in autumn and, that consequently, the superior officers in command have the time to prepare everything and to give the most detailed and precise instructions in order that trains be kept at their disposal.

But each time that this need is felt suddenly and unexpectedly, the Russian railways are always found wanting. Each time that more or less important demands have been

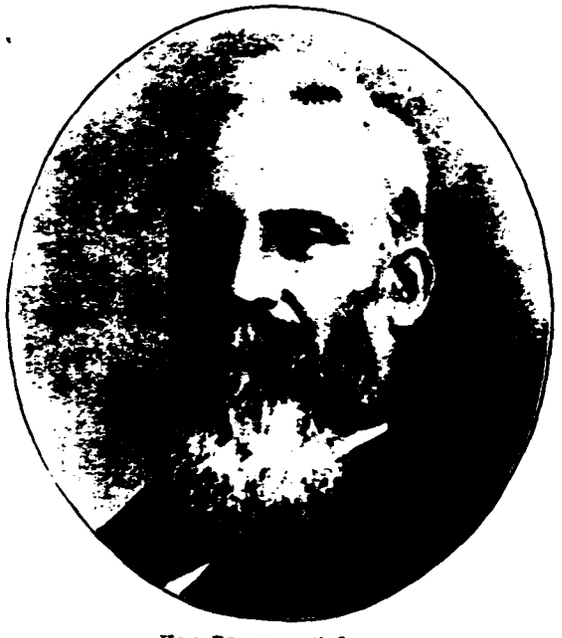
imposed, the lines which have been called upon to meet them are obliged to seek the assistance of other lines, both for personnel and for material. This intervention is also necessary in case of mobilization in other countries, but in Russia it always creates the greatest disturbance both in the technical portion of the railways as well as in the lack of hands. The immense distances and the sensitiveness of the long lines with single track prevent the supplementary cars from arriving at the proper moment, and the precarious technical condition of many of the lines, prevents still more the heavy trains running at rapid speed. If any of the lines should be temporarily disabled, the trains are obliged to make an immense circuit, and it often occurs that the rolling material of the extreme frontiers is called for. The supplementary personnel is unacquainted with the line, and upon these occasions of emergency the railway companies create for each other infinite difficulties in regard to utilization and exchange of their rolling stock. Germany alone enjoys the advantage of seeing nearly the totality of her railways in the hands of the State, which permits her to impose her will on the administration, unlike France and Russia.

In the Trans Caspian region the construction of the line Tashkend Orenburg, a little over 1,000 miles long, has been commenced, and will take about four years to complete.

There is under serious discussion the projects of connecting by canal the Gulf of Finland with the White Sea, as a northern outlet for the Baltic fleet, the Black with the Caspian Sea and Lake Ladoga with the Gulf of Finland. Money was appropriated in 1902 for three new lines; one from St. Petersburg east to Vyatka, to connect in all probability subsequently with the Perm line; second, one from Bologre—about midway between St. Petersburg and Moscow—westward to Sedletz; and the third, the Orenburg-Tasskend line. The first two will be over 1,000 versts, and the latter nearly 2,000 versts in length.

These conclude all the means of inter-communication by which Russia contemplates moving in time of war her mobilized forces of over three million men and their material.

FIVE YEARS A DRAGOON ('49 TO '54) AND OTHER ADVENTURES ON THE GREAT PLAINS.



HON. PERCIVAL G. LOWE.

PART VI.

THE 1st of May, 1857, I was placed in charge of transportation for the Cheyenne expedition, to be commanded by Colonel E. V. Sumner, First Cavalry, with Lieutenant J. E. B. Stuart, quartermaster and commissary of the expedition. It was at Lieutenant Stuart's request that I was detailed for this duty.

After the necessary preparations for the long campaign, Major Sedgwick, with four troops of the First Cavalry (now

Fourth), five Delaware Indian scouts and forty six-mule teams, Mr. "Nick" Beery as chief wagon master, was to go up the Arkansas by the Santa Fe route to about where now stands Pueblo, then strike across to where is now Denver, and down the South Platte to Fort St. Vrain, where it was expected he would arrive on or about the 4th of July. Colonel Sumner, with two troops of his regiment (First Cavalry) would proceed to Fort Kearney, where he would be joined by two troops of the Second Dragoons (now Second Cavalry), and thence to Fort Laramie, where three companies of the Sixth Infantry would join him. At Laramie he would take provisions for his whole command, including Major Sedgwick's, up to the end of July. Major Sedgwick's column started on the 17th of May; on the 18th and 19th we loaded Colonel Sumner's train, and at 8:00 A. M. on the 20th the column moved out, cavalry in advance.

The transportation consisted of the Colonel's four-mule ambulance, fifty wagons (six-mule teams) and twenty extra mules. Traveled eighteen miles and camped on Stranger Creek.

Without incident worthy of note, the command camped near Fort Kearney June 4th, Captain Wharton, Sixth Infantry, commanding; drew forage and provisions to last to Fort Laramie. Two troops of the Second Dragoons joined here, Lieutenant Smith in command of Troop E and Lieutenant Vilipigne of Troop H. Lieutenant Higgins, Sixth Infantry, also joined with 100 recruits for Companies B, C, D and G, Sixth Infantry, at Laramie. Colonel Sumner employed five Pawnee scouts, "Speck-in-the-Eye" chief of the band, and ten wagons were added to the train.

June 6th. Command left Kearney, and without incident of importance camped four miles below Beauvais' Crossing of South Platte June 13th.

June 14th. Command lying by; thankful for this. It gives men a chance to clean up, and men and animals a rest. Threw covers off every wagon and let in the sun to dry out dampness sure to accumulate.

Lieutenant Stuart resigned as Acting Quartermaster and

Commissary June 1st, and Lieutenant Frank Wheaton succeeded him.

June 15th. Leaving trains in charge of one wagon master, I took the others and assistants with me at 5 o'clock and rode to the crossing. The river was very high, banks full, and just half a mile by measurement from bank to bank; current three to four miles an hour; usually half the width was bare sand-bars, but now all was covered with water; it is the "June rise." Large numbers of emigrants waiting for river to get lower. On account of the melting snow in the mountains, they may have to wait a long time. I pointed out the landing on the north side; told Eskridge, who had quick perception and a clear head, to remain on the south bank and direct me step by step in case I got to drifting down. The others followed a short distance apart. The bottom was very uneven, sometimes a foot deep, suddenly becoming two, three, and in a few places, four feet deep. The changes were sudden, as often three feet as one, but mostly two or three. On a small island just above the crossing on the north side grew many tall, slim willows; we each cut several, ten or twelve feet long, and trimmed them so as to leave a few leaves on the top. Each took several of these long switches. Standing on the north bank, I directed them straight to Eskridge. In the shallowest water, where the current would have little force, a switch was stuck deep in the quicksand. By a tedious struggle we got a straight line from bank to bank.

Along came the cavalry, and I explained to Colonel Sumner and the Quartermaster that if they would keep close up to the line, below the line of willows, they would beat down and level the quicksand bottom so as to improve the crossing for the wagons. The Colonel knew this very well, as he had been here in 1850, though, he said, the water was not then high. I volunteered to show the way and rode in ahead. The head of the column kept up fairly well but some men a few files back had trouble, drifted, and before the north bank was reached the column was a rainbow—the center 300 yards below the direct line—many horses floundering in the quicksand and several men nearly drowned. For a wonder all got out, but my road-bed was not benefited. However, experience had shown me that there could be no helter-skelter hurrying, and the chance of losing some mules, wagons, and possibly men was very good. That tumbling, boiling cauldron of sand and water was dangerous for the strongest and most experienced men with teams. Be it remembered that the man, horse or wagon standing still will soon sink in the sand; one must keep moving constantly or sink; a blockade of wagons meant the loss of same. I asked the Colonel and Quartermaster if they had any instructions or directions to give me. The Colonel said, "Be very careful," and left me to work it out my own way. The company teams were looked after well under the instructions of officers and non-commissioned officers interested, and there was no friction, each team following in turn, all cheerfully helping. In addition to the wagon masters I had a dozen teamsters on their saddle-mules strung along the crossing ready to help. A strap or rope tied to the bridle of the lead mule was held by a mounted man starting in ahead of the team, while one or two more mounted men rode at the lower (off) side to whip up the mules and keep them from drifting down, and the teamster on his saddle-mule did the best he could to keep moving. In this way the first wagon got safely over.

Each wagon master and mounted teamster understanding his part of the program, the wagons were started in about fifty yards apart, care being taken to have no more than half a dozen in the river at the same time. Most of the teams had more or less trouble, causing outriders to get off into the water to help out, so that all clothing was soon wet through. The day was dark and cloudy, the water cold from snow-clad mountains and the north wind cold, and all suffered much. As soon as a team was over, the teamster unhitched his saddle-mule and came back to help. Half the teams were safely over when the oldest wagon master started in with a wagon for the first time. It was the lightest loaded, and it seems that he thought it would go over easily, and it would, with good management. It was the hospital wagon, containing all medicines for the command. In the middle of the stream, the team tangled up, the leaders swung round and the saddle-mule sank in the sand and got under the tongue, the lower

(off) wheels sank, and the wagon rolled over in the deepest water. The boy who drove the team, eighteen years old, was trying to extricate himself from his saddle-mule and crying for help. The man on the lower side could not reach him and the wagon master sat on his horse like a wooden man. I was fifty yards away, but put spurs to my horse and reached the boy in time to keep him from going under the tongue with the saddle-mule, which drowned. The men cut the harness from the other mules, and they found their way out. I took the boy on behind me, rode to the north shore, and he was soon made comfortable by his comrades.

At last all but one of the wagons were over—one mule, wagon and medical stores lost. And now, with plenty of mounted men we crossed the beef herd with little difficulty. I did not hear a complaint then or ever afterwards about the management. No one interfered with me from first to last. For my part, with some others, I had been in the cold river, mounted and dismounted, more than six hours; others had been in three, four or five hours; all at least one or two hours. About two infantry recruits climbed into each wagon and were the only ones who got over dry, except a few of the cavalry. Fortunately none were in the hospital wagon.

As soon as the last wagon was over, the cavalry column moved out. Lieutenant Stuart's servant came with the Lieutenant's compliments and presented me with a fine hat; Stuart had gotten it out of his trunk when he saw me lose mine in saving the boy. My ever present bandana was tied on my head.

Lieutenant Wheaton said we were going six miles to some water hole; we found the holes but no water. Water kegs contained enough for cooking purposes and to drink, and there were buffalo chips enough to make coffee and heat water for whiskey toddies, but no fire for the benumbed, worn-out men to warm themselves and dry their clothes by that dreary, miserable day. I had a few bottles of fine whiskey which had not been touched since I left Fort Leavenworth, and now I gave it all out in small doses to the men. I insisted on every man changing his clothing, and with coffee and plenty to eat, it was surprising how cheerful all were. My drowned

boy had been well cared for, laid away in blankets, and was all right.

That boy's name was Hayes, a German of Leavenworth, and when he returned home with one arm, at the close of the Civil War, he came to see me. He became a prosperous farmer in Jefferson County, Kansas—a good soldier and citizen. The Colonel sent for me and seemed well pleased at the manner in which the crossing was effected, and when I expressed impatience at the loss of the wagon and medical stores, he said he thought I should be well satisfied. He made me feel a little more reconciled to the unnecessary loss.

June 22d. We reached Fort Laramie, and camped one and one half miles above on the south side of Laramie River. Orders were received by Colonel Sumner for E and H Troops, Second Dragoons, to be ready to go with General Harney to Utah, so that they are no longer a part of the Cheyenne expedition.

23d. Everybody getting ready for the Cheyenne campaign. This is the last chance for any sort of outfit until it is over. Mr. Seth E. Ward, the sutler here, has a good stock of campaign goods. Fitting out more teams, having mules' shoes fitted, drawing provisions, forage, etc. Laramie probably presents a busier scene than ever before in its history. We left Fort Leavenworth with about 300 fat oxen, had been killing some from day to day for beef, and to day we drew 150 more from the Commissary. We have not seen a buffalo since leaving Freemont's Spring. The Colonel employed two guides—one a mountaineer white man, the other a Mexican.

27th. Three companies of the Sixth Infantry, under Captain Ketchum—his G, Lieutenant Carlin's D, and Captain Foote's C, marched from Laramie at 8 o'clock, passed our camp with the guides and Pawnees—trains following. Gradual rise eight miles south to top of steep, rocky hill; an hour going down 500 yards; crossed and camped on Cherry Creek at north side of "Goshen's Hole." This "Goshen's Hole" is a level plain thirty miles across from north to south, and is said to be the hottest place this side of the

home of Dives, and, except at the extreme south and north ends, about as dry.

28th. Infantry and Pawnees marched at 6:00, cavalry and train at 7:00, eighteen miles over flat plain, the sun shining on the light sandy ground, creating such intense light and heat that men and animals suffered much—blinding heat without a breath of air. Our camp on Box Elder looked like an old apple orchard minus the fruit. Scattering box-elders and good grass made as lovely a camp as one could expect without a drop of water. Water kegs were full and cooking went on all right, but the poor horses and mules were great sufferers. The white guide said that the water always sank in the sand during a hot day, but there would be a good running stream at 11:00 P. M. In sympathy with my part of the caravan, by permission of the Colonel and Quartermaster, I told the herders to turn the mules up the creek towards a high point of bluff a mile away. The horses occupied all the shade near camp except that monopolized by the men, and I saw nothing but hours of suffering with stifling heat for the mules before the broiling sun would go down. It was the hottest place I have ever seen without artificial heat. Horses stood at the lariats and chewed the grass they were unable to swallow, and spat it out.

Taking some pieces of "hard tack" to nibble on, I mounted my horse, and with "Billy" Lowe, a Cincinnati youth, who, with his brother, was roughing it for adventure, I leisurely drifted off ahead of the herd. Arrived at the point of bluff I noticed under the north side, where the sun had not struck since early morning, a trickling stream which ran into the sand twenty feet away. Then I began to hunt up the creek, the water increasing as I went. Two miles from camp the bluffs were high and brush and trees shaded the creek-bed, and our animals drank comfortably. Half a mile further I found a long hole worn in the sand-stone and a good stream running into it, but disappearing in the hot sand within two hundred yards. I wrote on a leaf of my memorandum book to Lieutenant Wheaton, telling him that if the Colonel would permit the mules to be driven three

miles from camp, they could get plenty of water, and could graze leisurely back before the sun set; also, that there would be plenty of water for the cavalry horses. I told "Billy" to deliver the note to Lieutenant Wheaton as quickly as possible. It was now 2 o'clock. With my glass, from a high point, I could see the camp and the mules. In less than a hour I saw the mules moving towards me, and as they came towards the water and smelt it, they struck a trot and finally a stampede, and such braying from four hundred mules I never heard before or since. The bluffs resounded with their music until their noses were buried in the lovely stream.

And now a column of dust indicated that the cavalry were coming; I showed them some nice holes above the mules. There was great rejoicing over the water. Captain W. N. R. Beall said to me, "Are you the guide of this command?" I replied that I was not, but, that if I were I should know what was in the country or try to find out; I had no use for guides who could only follow a trail and knew nothing of the surroundings; anybody could follow a trail without a guide. When I reported to the Colonel at sunset, he seemed greatly pleased, and questioned me about how I thought of looking for water. I thought of it as a matter of course, but admitted that it was an accident.

29th. Infantry off at 6:00, cavalry and trains at 7:00, ten miles and watered at Willow Creek; three more to pass through high bluff, the outlet from "Goshen's Hole;" four hours getting train up the hill and through the pass, half a mile—steep quicksand hill; three more, and camped on Bear Creek at 7:00 o'clock. Fine camp, but everybody and everything too tired to enjoy it.

30th. Off as usual, one mile to a branch of Bear River. This small stream, ten feet across, had by recent rains been made a bog one hundred yards wide. The slough grass was as high as a man's head, and one could cut with a butcher-knife an armful a minute. All soldiers and teamsters had butcher-knives. Cavalry dismounted and all cut grass, and a causeway was soon made. It seemed a huge job to cut with butcher-knives sufficient grass to causeway one hundred

yards of bog. All took hold in good shape and we crossed without accident, greatly to the surprise of officers and men, to whom this causewaying with grass was a new thing. Seventeen miles more, crossing five branches of Horse Creek, and camped at 4 P. M. on Mud Creek.

July 1st. Off as usual. Looking from a hill at the course the guides were taking the infantry, I suggested another course for the wagons. I could see with my glass a smooth plain that would save trouble. The Colonel said, "Well, go ahead," and I did, he following with his ambulance. Captain Beall said that we saved two miles. These guides have no idea of a wagon-road; they have been following Indian trails on ponies, and do not know very much about them. Eighteen miles over a hard gravel road and crossed Pole Creek. This is called "Pole Creek" because the Indians get large numbers of lodge-poles near the head of it in the mountains. Four miles more and camped on big "Mud Creek;" heavy rain-storm in the night.

2d. We have a butcher named Smith who has charge of the cattle herd. He never was on the plains before, and imagines that he can handle cattle here as he could on his father's farm in Rhode Island. I cautioned him to have his Mexican herders on the alert during the storm for fear of a stampede. This morning he came in greatly distressed and swore there "Wa'n't a critter in sight." And sure enough, with the exception of one cow owned by him and one lame beef, there was not a horned "critter it sight." Fortunately for our command, Quartermaster Sergeant Clark, who was commissary clerk, and my mess mate since leaving Leavenworth, overtook us about 10 o'clock with all the cattle, having found them ten miles from camp, nearly in the direction of our line of march. Off as usual, ten miles to main branch of Crow Creek; road muddy and bad from last night's rains; ten miles more, and camped on south side of slough, which delayed us three hours in causewaying with grass. Good many mules gave out to-day.

3d. Off as usual, one and one-half miles to slough that occupied two hours in crossing, with assistance of cavalry and plenty of slough-grass. Six miles, and struck spring

branch of Crow Creek—four more to crossing. Much time spent in crossing nine wagons, and Captain Beall found a good crossing half a mile below. This shows the worthlessness of the guide. Here the Colonel called me, and said, that by the guide's estimate it was eight miles to where we will camp to-night, twelve more to crossing of South Platte below the mouth of Powder River, and thirteen more to Fort St. Vrain, where he wanted to meet Major Sedgwick the next day; that is twenty-five miles by the usual trail from to-night's camp to St. Vrain, besides crossing the river. The guide also says, that if we could go direct from to-night's camp to St. Vrain, it would be only twenty miles, and crossing at St. Vrain much better than below the mouth of Powder River. Guide thinks the route practicable. So far I had not been impressed by anything the guide had done—if he had given any valuable information it had not come to my notice: so I told the Colonel that the guide's statement could be easily verified—that I would ride that twenty miles to St. Vrain, and back to his camp before starting-time in the morning, and then there would be no uncertainty about it. "All right," said the Colonel, "take both guides and any others that you want with you." I took with me Simeon Routh, a teamster in whom I had confidence, soon overtook the infantry, and got both guides, and struck out west towards the mountains at 3 o'clock. In referring to the guide, I mean the white man—the Mexican talked little English and kept quiet. The guide pointed out what he called "South Fork Peaks," and said that St. Vrain lay in a direct line between us and them, and we traveled straight as possible towards them.

We first came in sight of the Rocky Mountains at Scott's Bluffs, forty-six miles east of Laramie, Laramie Peak being the only spur then in sight. Since leaving Laramie we have been traveling nearly south and about parallel with the main chain, which now we estimate to be about forty miles distant. Over nearly level plain we went—walk, trot, gallop—pushing along at an average of six miles or more an hour. We have been traveling a little up grade, and at 5 o'clock, as we reached high ground, we could see the timbers of Powder River in the distance. The afternoon was lovely and the

scene before us beautiful beyond description—vivid lightning, clouds and rain—storms on various peaks along the snow-capped range could be seen far beyond the sound of thunder, the sun shining brightly on tempest, peak and plain, the scenes changing with the rapidity of a kaleidoscope. At last we are on the bank of Powder River at 7 o'clock, certainly twenty-five miles from where we started, and I do not know how much farther to St. Vrain; and it makes little difference. The river is a raging torrent, overflowing its banks from ten to twenty feet deep, from the effects of rains at its source, which we have been viewing all along. This settles the question about going that way, and, as I concluded then and have since proved, not a mile could have been saved by going that way—another damper on the guide's knowledge of the country. Troops and trains would have traveled over an untrodden plain half covered with cactus—one mile worse than two over a partially beaten track. For half an hour, with my glass I watched the glittering rays of the setting sun upon clouds, storms and white-capped peaks; I might never view such a sight again, and, though I have seen much of the magnificent range since, to me nothing has ever equaled that view.

I do not want to retrace the twenty-five miles to camp, and the guide says it is but twelve miles to the Platte below the mouth of the Cache le Poudre. So that, miserable as the prospect is, we will camp here. Our horses are tormented with mosquitos that rise from the thick grass and cover them all over, so we fill canteens and betake ourselves to a hill half a mile from the river, but they follow. The animals are hobbled, fuel is brought, and in a few minutes we have a fire, pile on green grass and make a big smoke, to which all animals—biped and quadruped—come for protection. Each man puts his slice of meat on a stick and broils it while seated in the smoke. Armijo, the Mexican guide, has a coffee pot and some coffee—each one has a few pieces of "hard tack," and we feast. Having both guides, I determined to send one back to Colonel Sumner, and wrote the following note:

"CAMP ON CACHE LE POUDRE,
"July 3, 1857, 10 P. M.

"*To Colonel E. V. Sumner, Commanding Cheyenne Expedition, Camp on Crow Creek:*

"COLONEL:—On leaving you I traveled due west about twenty-five miles over a fairly level country and arrived here at 7 o'clock. Found the water from ten to twenty feet deep and storms in the mountains indicate that it will continue so, rendering this route impracticable for the train. I will meet you on the South Fork of Platte to-morrow. I send Armijo with instructions to be in your camp by sunrise.

"I am, Colonel, very respectfully,
"P. G. LOWE."

Armijo saddled his horse and with rifle across the pommel said "Adios, Señor," and was gone. Before he left camp we all agreed upon a star that he should follow, believing that that course would take him close to Colonel Sumner's camp. We kept up the smoke. The night was cool, and by midnight the mosquitoes had settled down into the grass and there was peace for man and beast.

4th. Coffee, small piece of meat and "hard tack" made our breakfast, and at 5 o'clock we started down stream. Arrived at usual crossing of South Platte below the mouth of Cache le Poudre at 8:00. Unsaddled and let horses graze while we rested an hour. Then I proposed to try the crossing, but the guide said, "No, it is impracticable." Routh was willing to try it, but I would not permit it with his mule. Divesting myself of everything except underclothes, and with nothing on my horse but myself and a bridle, I felt my way into the river cautiously, and was half way over without much trouble. Then my horse had a hard struggle in deep water and quicksand, being hard pressed for some time to keep his head above water, but he took it quietly, rested when he could, and finally landed safely. I took the bit from his mouth and let him graze for half an hour while I fought mosquitoes with switches, and then we recrossed with the same difficulty. Our wagons cannot cross here at this time. The guide said: "You'll take the advice of a guide next time." Feeling nettled at what I conceived to be his utter uselessness, I admonished him that guides and other employees

were supposed to furnish information to the commanding officer, and if not, I could see no use for them. The dust of the command is visible four miles away. I selected a camp a mile lower down and rode out to meet the Colonel, who was in his ambulance in advance. He said that Armijo reached him in time. He was anxious to know about the crossing, and I was able to tell him, and he went into the camp that I had selected. Our battery was manned and salute fired just as we heard Sedgwick's guns up the river on the other side.

MAJOR-GENERAL JOHN SEDGWICK.

Some one cried, "A horseman on the south side of the river!" and all rushed for a sight of him. After long exertion, everyone having given him up for lost half a dozen times, the horseman emerged from the river, and proved to be "Fall Leaf," one of the Delaware Indian guides, from Major Sedgwick. He brought a letter from the Major to the Colonel, who sent "Fall Leaf" back with an answer, requesting the Major to move down opposite to him to-morrow. Overcome by excitement and fatigue, and the effects of a good dinner, I retired to my tent and was soon fast asleep. But, alas! "there is no rest for the wicked." I was soon aroused by the alarming cry of "Stampede!" oft repeated. Twenty steps from my tent stood my horse (Ben). Always after coming into camp he was saddled and ready to mount. (I always rode a mule during the day.) This time I had left the saddle off to give him a rest and had him picketed so that

he could graze. I mounted without saddle or bridle, put the lariat in his mouth to guide him, dropped the picket pin, and was soon three miles back on the road with the horses and mules headed toward camp. Others came promptly, and every animal was safe. A few cavalry horses stampeded and ran among the mules, which were being herded. Two or three horses were hurt by picket pins, but no other damage.

5th. While at breakfast Lieutenant Wheaton came and said we were to try to cross the river, therefore three metalic water-tight wagon beds, tools to work with, etc., were needed at the river. These, with six coils of rope, wheelwright, blacksmith, etc., were soon there. The Colonel and his adjutant, Lieutenant Colburn, and Lieutenant Wheaton were the only officers who participated in the work. A strong detail of men was made from each troop and company. I was not supposed to work any of my men unless asked to, and I was glad not to be called upon. The first thing was to stretch a rope from the north shore to an island in mid-river. The water was over a man's head in some places and current strong. The three metallic wagon beds were to be lashed together and the raft so made attached by two pulleys to a rope at each end and pulled over by men on the raft. After a long, hard struggle, wading, swimming and pulling, exposed to the hot sun when not under water, they succeeded by noon in getting a rope stretched to the island and two wagon-beds in position to use, but the other one got away and floated down the river.

While three men were working with the rope in mid-river, they lost their hold, and, being exhausted, one of them drowned, while the other two barely escaped. One of them caught overhanging willows at the island with his left hand, and reached back with his right and caught the hand of his comrade, and held on until the men on shore pulled them out. They were cavalrymen of the best type. Fifty men saw this fine young soldier, Daugherty by name, go down to death, with no power to assist him, in that stream of yellow sand and water, and his loss caused deep regret.

Major Sedgwick's command camped opposite to us. At 5 o'clock the Colonel gave orders to take tools to camp, includ-

ing ropes, indicating that the effort to cross here was abandoned.

6th. The two commands moved down the river on opposite sides, eighteen miles, and camped on river. Lieutenants Lomax and Bayard crossed over from Major Sedgwick's to Colonel Sumner's camp. The river is wider and shallower here, and current not so swift. Major Sedgwick having exhausted most of his forage and provisions, his wagons are nearly empty, and he will cross to our camp.

7th. Major Sedgwick's four troops crossed with little difficulty. With my wagon masters and a number of good teamsters mounted on saddle mules, we helped Beery's trains over without serious accident. Mr. Beery brought my metallic wagon-bed, lost yesterday, which he found on a sand-bar. Colonel Sumner calls this "Camp Buchanan," in honor of the President. This evening orders are out, dated "Camp Buchanan, July 7, 1857," in which we are informed that pack and riding mules must be made ready to accompany the six troops of cavalry and three companies of infantry in pursuit of the hostile Cheyennes. Pending the campaign, the train is to return to Fort Laramie, be refitted and loaded with provisions and forage, to meet the command at some time and place not named in the order.

8th. Centrally located is the blacksmith shop, under awnings of wagon covers, supported by poles, with portable anvil, bellows, etc., soon in full blast. Small coal pit burned during the night, and another being made ready; saddler shop near by under similar awnings, trying to make pack-saddles of all sorts of old wagon saddle-trees found at Laramie. We found but few real pack-saddles there, and brought none from Leavenworth. Carpenter and helpers are fitting panniers—everybody busy doing the best under the circumstances.

9th. Selected mules, taking care to use those that are broken to ride, including saddle mules belonging to teams, and the teamsters are breaking others. Except a few Mexicans, I have not a man who is a practical packer; among the soldiers there are none. With the Mexicans I established a sort of school, but they are hardly able to impart to others

what they know themselves; however, they are much help to the officers, who want a few men instructed.

10th, 11th and 12th. To sum up: One hundred and eighty pack and riding mules, 170 blind bridles, and all saddles and saddle blankets belonging to train turned over to Lieutenant Wheaton, acting quartermaster and commissary of the expedition.

13th. With best six-mule teams I could rig up, crossed the packs and infantry to south side of river without accident, and returned to camp. Before parting, the Colonel complimented me on the good work done, told me what he expected in future, and as he shook my hand, said that my pay had been increased twenty-five dollars per month from the first of June. I was to return to Laramie, 150 miles, turn in all surplus wagons and harness, refit the train, and make as many six-mule teams as I could, load the wagons with corn and commissaries, and meet him at Beauvais' Crossing of South Platte, where we crossed coming out, by the first of August, 175 miles from Laramie.

And now the "good-byes" are said and the command is gone. Lieutenant Riddick is left acting commissary and quartermaster of the train and in command of about fifty men on their first campaign, who, having bunged up their horses or themselves are no longer of any use to the Cheyenne expedition, and are left dismounted with the train. I immediately proceeded to fix up teams, and found myself with 109 wagons, twenty-five six mule teams, eighteen five-mule teams, sixty-six four-mule teams, equal to 504 mules, Riddick's horse and mine, and a few broken-down cavalry horses, which we will turn in at Laramie. Not a saddle nor saddle-blanket for the teams, 170 bridles short. I had been preparing for this condition of things, and had men breaking in leaders and saddle-mules all the time that we had been here; also had to rig out bridles, using ropes and straps for that purpose. By noon we were straightened out, traveled twelve miles and camped above Cottonwood Grove on the Platte. Lieutenant Riddick found the remains of Daugherty on an island a little below camp and had them buried, and called the place "Daugherty's Island."

Mr. Beery went with pack train as chief "muleteer," and took Sim Routh and his pick of other men in the train. The Colonel left the "white guide" with the train, to be discharged on arrival at Laramie. I may as well dispose of him now: He was well-behaved and of rather good disposition—a pleasant man to get along with. The day after our arrival at Laramie he married a young Sioux Squaw—that is, he tied four ponies to the tepee of a warrior, they were accepted by said warrior, and the girl became the bride of the guide. Four years later I saw this same man married in due form to a white woman by a clergyman in Denver, while the squaw bride witnessed the ceremony through a window as she stood upon the porch.

19th. Camped one mile above Fort Laramie. Reported here that General Harney was to have left Fort Leavenworth on the 15th en route to Utah.

20th. Turned in twenty-nine wagons, traveling-forge and surplus harness, and found myself with eighty six-mule teams complete (including saddles, blankets, bridles and a few inferior surplus mules which we drew from the quartermaster here). Drew commissary, medical and other stores and loaded everything but corn.

21st. Loaded 130,000 pounds of corn, drew fifty rifles and two boxes of ammunition for the same and eight boxes navy pistol cartridges, issued rifles to teamsters and made ready for start in the morning. One wagon was loaded exclusively with supplies for officers when we should meet at crossing of South Platte. Jimmerson was the teamster in charge of this wagon and, strange to say, none of its precious contents were lost, stolen or *evaporated*.

22d. Passed Bordeaus' trading place and camped below Major Dripp's trading house, nineteen miles from Laramie.

23d. Marched fifteen miles and camped at mouth of Horse Creek. We are told by Mr. Reynolds, an Indian trader, that the Cheyennes are but three days' travel south.

If Colonel Sumner meets and whips them, they will likely go north, Reynolds thinks, and may meet us. The management of the train is left to me and I take no chances. The camp is, and will be while traveling along the river, by

making the train form three sides of a square, river forming the fourth—say twenty-six wagons fronting west, twenty-six south and twenty-six east—wagons about twenty feet apart—river forming north line of the camp where the dismounted soldiers and their mess wagon and my mess wagon will camp. Mules herded outside of the square until an hour before sunset and then picketed on half lariat inside. Lieutenant Riddick places sentinels pretty well out from the wagons. I make a regular detail of teamsters, with a wagon master and assistants in charge, who divide the night between them, and I am to be called at any and all times that the man in charge sees or hears anything suspicious, or that he does not understand. The detail for sentinels is twelve teamsters each night—half being on post the first half of the night and half the last part. This gives two sentinels on the west, two on the south and two on the east—the roster kept so that each man will do his fair share of guard duty. From my experience as a Dragoon I send two or three men mounted on mules to highest points in the vicinity of camp, there to dismount and let the mules graze while they keep a look out and keep me informed of everything of interest from the time we camp until sunset.

24th to 27th. Camped each night on Platte.

28th. Soon after leaving camp, saw a party of Indians on the opposite side of river, supposed to be Sioux. Indians seen along bluffs about two miles from camp. We saw some Sioux squaws along the bluff between Indian camp and ours, and Riddick and I rode out to see what they were hunting for, and found they were after rattlesnakes, and they found them plentiful. I dismounted and watched one squaw for half an hour, during which she got three. With a forked stick in left hand and butcher knife in the other, she crept towards the snake until he was ready to "strike," when quickly and skillfully she pinned him down by placing the forked stick close to his head, pressing down firmly and amputating the head. By killing them in this way they had no chance to bite themselves, which they will do when hurt or angry. When they do not bite themselves, thereby poisoning the meat, it is good to eat, and that is what the squaws wanted

them for. Having severed the head from the body, the squaw caught the latter and thrust it into the folds of her blanket next to her buckskin shirt.

Arrived at Ash Hollow at 10 o'clock and camped. Storm subsided and left a bright, sunny day. After lunch mounted my horse, and with "Billy" Daniels for a companion, went in search of a road out of Ash Hollow to avoid the one already in use, which is altogether impracticable for us with our heavy loads—3,500 pounds in each wagon. The teams could no more than pull up the empty wagons, and we should have to double teams and haul up a little at a time, straining mules and breaking chains. We found and staked out a route that can be traveled without much difficulty—five hours' hard riding to find a route three miles through the bluffs.

30th. Off at 5:00, took the new route and at 8:00 o'clock all wagons were at the top of the hill in safety, with no accident except upsetting one wagon by carelessness.

Having fairly straightened out the train at the top of the hill, a band of Indians came in sight from the east at a fast gallop. I started the train into corral, giving the sign by riding my horse in a circle; the movement was quickly commenced, wagon masters and teamsters moving with a will. Riddick quickly formed his soldiers in line ready for business, while I rode to a high point, with Manuel for an interpreter, and motioned them to stop. They came down to a walk, and when within hailing distance were told to stop and let their chief come up. This they did, "Man-afraid-of his-horse" approached, "Howed," shook hands, and asked for something to eat. I cut the talk short by telling him that we must keep all we had for Colonel Sumner's command, which was after the Cheyennes and would be very hungry when we met. The chief promised not to come any nearer and I shook his hand, galloped to the train and straightened out on the road. The Indians had no hostile intent.

Fourteen miles brought us into camp one mile above crossing of South Platte. Immediately after lunch, about 1 o'clock, I retired to my tent to sleep off the fatigue of yesterday, and told my cook not to allow any one to disturb me

unless for some good reason. At 5 o'clock he woke me and said that Lieutenant Riddick wanted me to come to the river bank; there were Indians on the other side. I took no arms, contrary to my habit of always being ready. There were four Indians, and I sent a man with a white towel for a flag to a small island to wave it as an invitation to them to come over, hoping to hear something from Colonel Sumner. As soon as the man beckoned them to come over, one galloped off up the river and the other three took off their saddles and commenced to cross bareback. It was easier and safer to cross without saddles. They were soon in camp, claimed to be Sioux but proved to be Cheyennes. I advised taking them prisoners, which Riddick agreed to, and I explained to him the difficulty of doing so without injuring them, which we must avoid if possible.

The teamsters were now bringing in the mules and picketing them on half lariat between us and the river. The soldiers had been cleaning their guns for inspection, and stood idly by. Having arrived at my tent, Manuel Vigil, a Mexican who had lived with the Sioux and understood the Cheyenne language, especially the sign language, was called to act as interpreter. The Indians seemed frightened on seeing the soldiers, but were assured that no harm would come to them; that we would feed and take care of them, etc. We all sat upon the ground, Riddick facing one Indian, I another, and Manuel the third. At Riddick's request, I played the part of "White Chief," and did the talking. They were asked why they came into our camp, and replied that, being very hungry and thinking it a freight or emigrant train, they hoped to get something to eat. Asked where their people were, they said that some of them were on the South Platte, near the mouth of Pole Creek, about twenty miles above us. This corroborated my suspicion that the fourth Indian, who rode off up the river, had gone to some camp. Asked if they knew where Colonel Sumner's command was, the big brave said that they did, but did not want to talk about that. They were then informed that this was Colonel Sumner's supply train, and that they were prisoners; that they would be well treated and fed; that we would take care

of their arms and ponies until Coloner Sumner's arrival, which would be in a day or two. To this their leader, a large, powerful fellow, six feet four inches high, and strongly pock-marked, appeared to agree, but said something very low to the others, which Manuel afterwards interpreted to be: "You young men can do as you please, but I am no longer a boy to give up my bow." It was a trying moment. I realized that their compliance with my request would come only after a physical struggle. We did not want to do violence to these three Indians in a camp of 150 men; it would seem shameful; yet we must keep them prisoners. We all stood up, fifty men standing around, half of them with loaded rifles. Quick as thought the big fellow sprang on his pony, and was off towards the river. Twenty or more shots were fired after him, but his pony tangled in the mules' lariats and fell, pitching the Indian into a slough separating some small islands from the main land.

All but Manuel and myself rushed after the escaping Indian, while Manuel, a big, broad-shouldered, powerful man, seized one of the others from behind, pinioned his arms tightly, laid him on the ground and there held him: I reached for the bow of the third one, when he eluded me and I struck him a powerful blow in the face, thinking to knock him down; but he only bounded like a ball, drew his scalping knife and came near stabbing me. I seized him by the wrists and held up his hands, realizing that to let go meant death to me, while he sprang into the air like a wild tiger, trying with all his might to break away, and yelling like a maniac. This lasted a minute or two until "Billy" Daniels, a fine young teamster, came to my assistance. I told him to get behind the Indian, pinion his arms and lay him down on the ground, which he did; and with both hands I took his knife, bow, quiver and arrows. His saddle, lariat, bow, quiver, arrows and scalping knife fell to me, and on my return to Fort Leavenworth I gave them to my friend Levi Wilson, who sent them to his father, Dr. Wilson, of Pittsburg, Pa.

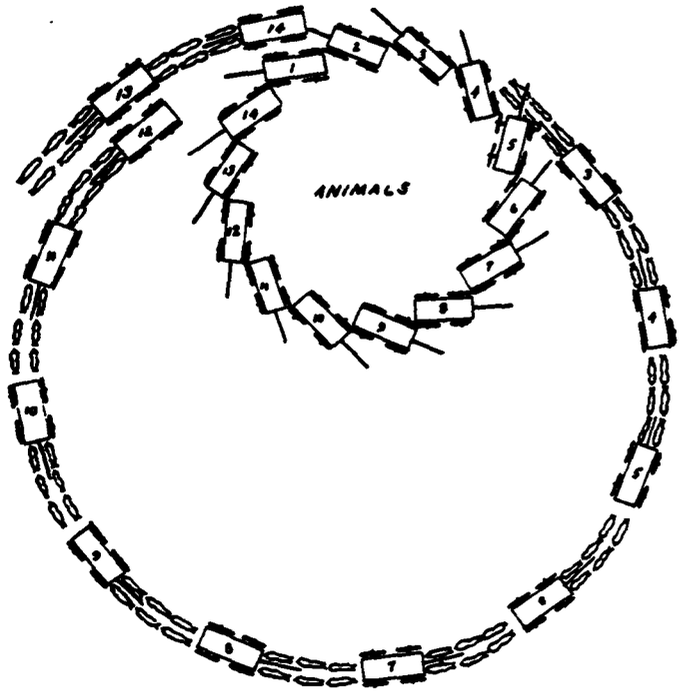
Small rope was brought and I soon had both tied hand and foot. Then I mounted my horse and searched the small

islands near shore for the big brave, thinking he must be wounded or killed; but I did not find him. If he was hit, he might have sunk in the muddy stream, and one could not see a foot under water; and if not, he could lie on his back under over-hanging willows with nose far enough out of the water to breathe until dark, and then make his escape. His pony, lariat, blanket, bow, quiver and arrows were left behind. For want of proper irons we used small chains and padlocks from the front boxes of wagons to iron the two prisoners, the right hand of one fastened to the left hand of the other. We had a tent pitched for them, and a soldier sentinel placed in front and one in rear. And now the interpreter, Lieutenant Riddick and I commenced a pumping process to find out from the young fellows all we could of Colonel Sumner. We learned that he had had a battle the day before, that some Indians were killed and wounded, as well as some soldiers, that the Cheyennes were scattered, most of them going north, crossing the South Platte near the mouth of Pole Creek. We believed these statements to be fairly correct. The Indian that I captured was a son of the head chief, and the other was his cousin, each about twenty-two years old, tall, well built, and very handsome Indians—the best type of Cheyennes.

And now the suspicion arose that there might be a large camp of Cheyennes in the vicinity of the mouth of Pole Creek. We had the chief's son, and there might be an effort made to stampede or capture our train to give the youngsters a chance to escape, and I immediately set to work to corral the wagons so as to make a solid fort, with room for men and animals inside. Setting the first wagon, the next came up and struck its left front wheel against the right hind wheel of the first, with tongue on the outside—each wagon coming up so as to make the circle more complete; when the last wagon but one was in, that one would close the mouth of the corral so that nothing could get in or out. All this we did by hand in two hours, put all of the animals inside and closed the gap with the last wagon. Then I examined all arms in the hands of teamsters, and saw that each had fifty rounds of ammunition. Riddick did the same

with the soldiers. A strong guard was posted, and all was quiet.

A candle was kept burning in the prisoners' tent, and lying a few feet from the open front, without being seen, I watched them. They whispered together a good deal and seemed to be listening, wrapped in a state of expectance.



WAGON CORRAL.

There was a dismal sound of wolves howling in every direction. That was nothing new; we heard them howling every night; but one of them sent out a peculiar howl, unlike any of the others; he howled at intervals directly south across the river. To this the young chief and his fellow prisoner sat up and listened eagerly. Wolves wading across a shallow river make about the same splashing noise that a horse does, and quite a number crossed during the night. An hour had passed since I had heard the peculiar howl referred to, when it broke out again on our side of the river above the camp. I now felt convinced, as I had before believed, that this particular howl was by an Indian, by which he conveyed information to the prisoners. There was no sleep for me, for I believed that there was a large band of Cheyennes in our neighborhood, but we had no fear of the whole Cheyenne Nation, the way we were corralled. Vigilance was all that we needed.

July 31st. Camp aroused an hour before daylight in anticipation of an attack, about dawn being a favorite time with Indians to surprise unsuspecting sleepers. Daylight came, but no enemy in sight. After breakfast, with three men mounted on mules, I scoured the country to the highest bluffs north, and then posted them as videttes on three prominent points half a mile from camp. I then rode a couple of miles up the river, but discovered nothing but the tracks of two ponies which crossed the river during the night. About 4:00 P. M. an Indian approached the river on the opposite side to within half a mile of the bank, reconnoitered a while and then rode away. About 5 o'clock an express arrived from Laramie with mail for the command, which failed to reach Colonel Sumner by a former express; it was brought by a mountaineer called "Big Phil," accompanied by a Sioux Indian. No news from Colonel Sumner: mules herded close to corral under strong guard, ready to rush them in quickly if necessary.

August 1st. Videttes posted and mules herded by strong mounted guard near by corral. I crossed the river and met one of Major & Company's trains en route to Salt Lake. No news from Colonel Sumner and none from the "States" Rode five miles up the river and found plenty of Indian pony tracks. Some soldiers crossed over and found two saddles belonging to our prisoners. This shows that the Indian who escaped took his saddle for another horse, when he joins his tribe or gets a chance to steal one. No Indians seen to-day. This evening Lieutenant Riddick consented to send out two Mexican spies, Manuel Vijil (pronounced Vi-heel) and Malquis Mestos, for the purpose of ascertain-

ing the location of the Cheyenne camp, supposed to be near the mouth of Pole Creek, perhaps twenty miles above us. Manuel was given a letter from Lieutenant Riddick to Colonel Sumner, in case he should meet him, and he was instructed to find the Cheyenne camp if possible, count the lodges, see which way they faced, take cognizance of every ravine or pass leading to the camp, etc., and to return to our camp by evening of the 3d inst. They were furnished horses, feed and arms, and passed the guard at 12:00 midnight.

2d. The expressman, "Big Phil" and the Sioux Indian left us at sunrise. They had been permitted to talk with the prisoners, it being known that they would tell of it to any Indians they happened to meet, and by that means the safety of the prisoners would be known to their friends; and it was believed that the Cheyennes might be induced to come in and make terms for peace. Moved camp one and one-half miles up river for fresh grass. Improved this time to practice in corralling, so as always to be ready to corral quickly by driving round in a circle without confusion. A hundred men well armed inside of my corral could stand off thousands with bows and arrows.

After the videttes had been posted on high ground and I or one or two wagon masters had explored a little, the mules are turned out to graze and kept out until within an hour of sunset, and then shut up in the corral for the night. We feed corn to wagon masters', Mexicans' and Riddick's and my horses to keep them in condition for long rides or stampedes at any time; no other animals are fed. We save the corn for the command when it reaches us.

August 3d. Mexicans return this evening, and report having found a camp of seven lodges on the south side of South Platte, nearly opposite mouth of Pole Creek, where there had been two other camps. They found a chart in one of the camps marked on a buffalo skull, showing that the Indians had taken the route up Pole Creek to a point opposite Smith's Fork, thence north across North Platte. The Mexicans saw one Indian to-day, but could not get near him.

No news or sign of Colonel Sumner. Heavy rain and electric storm during the night.

August 4th. I called for volunteers to go to the camp of seven lodges. Twenty teamsters and the two Mexicans above mentioned got ready, armed with rifles and revolvers.

August 5th. Off at sunrise; teamsters on mules, Mexicans and myself on horses; crossed river opposite camp, up south side to the seven lodges. There they stood, but no Indians in sight, and a careful reconnaissance revealed none. Everything indicated that they had gone in a hurry, leaving besides lodges, many useful articles; live coals of a small fire still smouldering, and cooking utensils that would not be abandoned except in case of necessity. Looking across the river, up Pole Creek, we saw a band of Indians in rapid retreat two miles away. Undoubtedly my party had been seen, and the Indians were in too much of a hurry to encumber themselves with lodges. The party seemed quite large and their precipitate retreat indicated that they were greatly demoralized. The Indian trail coming from the south was broad and quite well worn, showing that many had traveled it recently, and quite a number since the rain night before last. Manuel and I were so impressed with the indications of recent Indian travel over this line, that we instinctively looked south for some portion of Colonel Sumner's command in pursuit. We saved one of the lodges, a nice small one, pack-saddle and a bushel or two of kinickinick, the inside bark of red willow, dried, enough for all hands to smoke for a month, piled everything else together and burned it. Placing sentinels on several high points, with the Mexicans and "Billy" Daniels, I rode to the camp two miles above; found a chart on a buffalo head and everything to corroborate Manuel's statement; had him bring the head to camp. To me it revealed the fact that the scattering bands were going to concentrate somewhere north of North Platte, and it might be valuable information for Colonel Sumner. Returned to my party and thence to camp without incident, except plentiful signs of Indians having traveled up and down the river opposite our camp—surely Cheyennes. There were tracks of two American horses, with shoes on, that had passed the

camp both ways since the rain, indicating that Colonel Sumner may have lost some horses.

August 7th and 8th. Nothing new. Several false alarms. Each sunny day the wagon covers are thrown off so that the sun may dry out any dampness that may have accumulated. If rain has beaten in, the loading is taken out and repacked. Damp commissaries and corn soon spoil under wagon covers exposed to the hot sun. Many horses and mules die of colic caused by eating corn thus exposed. It gathers dampness, swells, heats, gets musty, moldy and finally rotten, unfit for any animal to eat. There is nothing so demoralizing for men as idleness, and examining loads, unloading and re-loading wagons is a great benefit to men and stores.

The Indian prisoners seem to have outgrown their fears of violence, and to have overcome their aversion to Manuel and myself, who were the prime cause of their captivity; in short, they have become quite communicative. The one who fell into my hands says that after the fight the Cheyennes scattered, agreeing to go north and meet from time to time at some point north of the North Platte. When told of what we found near the mouth of Pole Creek, the buffalo head with chart having been shown them, they said that that camp was a sort of depot of supplies and information to assist those going north. Being closely questioned, the young chief said the wolf that made the peculiar noise the night of their capture was his father, and that two other nights he had heard his father. He thought the Cheyennes too much scattered to attack our train, and thought his father would not do so for fear of what might happen to them; in fact sufficient assurance had been given through the peculiar wolf howl, that they would not disturb the train. And we believed that their captivity would have a strong influence in inducing the Cheyennes to come to terms and sue for peace.

August 9th. This morning one of Childs' ox trains passed east en route to the "States." By it we learned that the mail passed west during the night. Sent two men and caught mail at Ash Hollow.

August 10th. Crossed train over river without accident, and camped one mile below where we had so much trouble

in June. Water is low; half the river bed a dry sand bar; Lieutenant Riddick took 211 sacks of corn from one of Major Russell's trains en route to Laramie, believing that Colonel Sumner's command would soon be here. Some Indians seen this evening supposed to be Sioux.

August 11th. This morning a band of Sioux, under "Man-Afraid-of-His-Horses," crossed from north to south side of the river. Only the chief allowed to come into camp. He was told to keep away from the mule herd, and not to allow his men to come near. In the meantime the mules were corralled. The Indians soon left, and the mules were again turned out. A wagon master or his assistant is with the herd all of the time, and he is instructed to corral on the appearance of Indians, whether there seems to be danger or not. One of the herders leads a horse with a bell on his neck, and when the herd is to be corralled he rattles the bell violently and gallops for the corral. The passageway is always kept clear when mules are out. The mules have now gotten so used to this that they run for the corral when the bell is rattled, and could hardly be kept from it. About noon a train came in sight down the river. Of course we are all expectancy, hoping that every outfit that comes in sight may be ours. I rode out and met Colonel M. F. W. Magraw and his surveying party, en route to California, with "Tim" Goodale, the celebrated mountaineer, as guide. I had met him here in 1851. Major Johnson, Sixth Infantry, en route to Laramie, is with Magraw. Magraw with his fifty wagons camped near us, and half the night was spent in gathering the news from him, Goodale and Johnson. They left us a few old papers.

August 12th. Magraw's train crossed the river and camped on north bank. He, Goodale, and Captain Johnson dined with us. Goodale belonged to the class of mountaineers who ranked with Sublett, Fitzpatrick, Bridger, etc., with Carson as the recognized head—reliable characters, unmixed with false heroism, intelligent and trustworthy. The young Cheyennes knew him, and he learned from them about what they had told us, and he thought the information pretty correct. Of course Goodale knew nothing of Colonel Sumner's fight, but judging from what the prisoners said, it was

forty hours afterwards that they came to my camp, and he thought the Cheyennes were sure to retreat north; they would not be likely to go south or west, and surely not east; they could get north of the North Platte more easily, and soon be in a comparatively safe country, at that time almost unknown to the whites. He wondered why Colonel Sumner was not hot after them, as they passed within twenty miles of his supply train, and some of them much nearer, unless he was himself too much crippled to follow; at any rate, if the Cheyennes were whipped any where on the branches of the Kaw River they would retreat north if possible; and we had ample proof that the chief (whose son and nephew were our prisoners) and most of his people did go north. Any one who knew the country north of North Platte would know they would do that, and then old "Tim" expressed the opinion that Colonel Sumner's guides knew nothing about the haunts of the Cheyennes in the northern country.

Mr. R. M. Peck, of Whittier, California, has written an interesting account of the Cheyenne expedition, as he remembers it; and as a soldier in the First Cavalry he participated in the battle and in pursuit of some of the Cheyennes, the command going to the Arkansas afterwards, undoubtedly opposite to the route taken by most of them (see Mr. Peck's letter in Kansas State Historical Society's collections, Volume VIII).

13th. Went with Colonel Magraw to Ash Hollow. He passed his train over my new route without difficulty, and named it "Lowe's Route Avoiding Ash Hollow Hill."

14th. In the evening one mule left the herd and ran down the road, followed by Assistant Wagon Master Stanley and two teamsters. They soon returned and reported that they saw Indians on the north side of the river. Messrs. Patrick, Cecil and I went in pursuit as far as Nine Mile Tree, where we found Captain Van Vliet, quartermaster of the Utah army, camped. His men had caught my mule. Captain Van Vliet is on the way to Salt Lake, to return immediately. He informed me that while Colonel Sumner's whereabouts are unknown, four of the six troops of cavalry now with him are to go to Utah, while the Colonel with the other two troops

returns to Fort Leavenworth. The three companies of infantry now under Colonel Sumner (C, D and G, Sixth), with the company at Laramie (B, Sixth), are also to go to Utah. Colonel Alexander, Tenth Infantry, with advance troops for Salt Lake, expected in a day or two. Returned to camp at midnight.

15th. Captain Van Vliet passed this morning. I led the command over the river, as I did every other military outfit while we were camped near the crossing, and was able to serve many of them to good advantage.

17th. An express from Laramie, "Big Phil" arrived at sunrise. Received several letters from friends. No news from Colonel Sumner. A party of returning Californians camped near by. The party was managed by Mr. D. O. Mills, a banker of San Francisco, and a sea captain whose name I have forgotten. They stopped in Salt Lake several days. Mr. Mills and Captain —— seemed to be very superior men and not inclined to talk romance. This is the D. O. Mills of New York whose name is honored throughout the financial world. They camped near us two days. They needed rest and took it while they could safely do so near our outfit.

21st. Colonel Alexander crossed over and camped on the north side. I led the train and gave him full information of route to Laramie. Saw Mr. Andrew Garton and son, beef contractors of Clay county, Missouri, who are driving a large herd of cattle for delivery at Laramie under escort of the Tenth. Lieutenant Bryan's party arrived from Bridger's Pass and camped near us. Dr. Covey joined us from Lieutenant Bryan—quite an acquisition to our mess.

22d. Colonel Alexander marched early. Lieutenant Bryan's party left en route to the States.

Captain Dixon, quartermaster, and Captain Clark, commissary, arrived and crossed the river en route to Utah. They bring news that Colonel Sumner had a fight with the Cheyennes on the 29th of July. Large body of Indians formed in battle array, and the cavalry charged with drawn sabers. Twelve Indians were left on the field and many wounded; cavalry lost two men killed, and Lieutenant Stuart and eight men wounded. Captain Foote with his

forty hours afterwards that they came to my camp, and he thought the Cheyennes were sure to retreat north; they would not be likely to go south or west, and surely not east; they could get north of the North Platte more easily, and soon be in a comparatively safe country, at that time almost unknown to the whites. He wondered why Colonel Sumner was not hot after them, as they passed within twenty miles of his supply train, and some of them much nearer, unless he was himself too much crippled to follow; at any rate, if the Cheyennes were whipped any where on the branches of the Kaw River they would retreat north if possible; and we had ample proof that the chief (whose son and nephew were our prisoners) and most of his people did go north. Any one who knew the country north of North Platte would know they would do that, and then old "Tim" expressed the opinion that Colonel Sumner's guides knew nothing about the haunts of the Cheyennes in the northern country.

Mr. R. M. Peck, of Whittier, California, has written an interesting account of the Cheyenne expedition, as he remembers it; and as a soldier in the First Cavalry he participated in the battle and in pursuit of some of the Cheyennes, the command going to the Arkansas afterwards, undoubtedly opposite to the route taken by most of them (see Mr. Peck's letter in Kansas State Historical Society's collections, Volume VIII).

13th. Went with Colonel Magraw to Ash Hollow. He passed his train over my new route without difficulty, and named it "Lowe's Route Avoiding Ash Hollow Hill."

14th. In the evening one mule left the herd and ran down the road, followed by Assistant Wagon Master Stanley and two teamsters. They soon returned and reported that they saw Indians on the north side of the river. Messrs. Patrick, Cecil and I went in pursuit as far as Nine Mile Tree, where we found Captain Van Vliet, quartermaster of the Utah army, camped. His men had caught my mule. Captain Van Vliet is on the way to Salt Lake, to return immediately. He informed me that while Colonel Sumner's whereabouts are unknown, four of the six troops of cavalry now with him are to go to Utah, while the Colonel with the other two troops

returns to Fort Leavenworth. The three companies of infantry now under Colonel Sumner (C, D and G, Sixth), with the company at Laramie (B, Sixth), are also to go to Utah. Colonel Alexander, Tenth Infantry, with advance troops for Salt Lake, expected in a day or two. Returned to camp at midnight.

15th. Captain Van Vliet passed this morning. I led the command over the river, as I did every other military outfit while we were camped near the crossing, and was able to serve many of them to good advantage.

17th. An express from Laramie, "Big Phil" arrived at sunrise. Received several letters from friends. No news from Colonel Sumner. A party of returning Californians camped near by. The party was managed by Mr. D. O. Mills, a banker of San Francisco, and a sea captain whose name I have forgotten. They stopped in Salt Lake several days. Mr. Mills and Captain —— seemed to be very superior men and not inclined to talk romance. This is the D. O. Mills of New York whose name is honored throughout the financial world. They camped near us two days. They needed rest and took it while they could safely do so near our outfit.

21st. Colonel Alexander crossed over and camped on the north side. I led the train and gave him full information of route to Laramie. Saw Mr. Andrew Garton and son, beef contractors of Clay county, Missouri, who are driving a large herd of cattle for delivery at Laramie under escort of the Tenth. Lieutenant Bryan's party arrived from Bridger's Pass and camped near us. Dr. Covey joined us from Lieutenant Bryan—quite an acquisition to our mess.

22d. Colonel Alexander marched early. Lieutenant Bryan's party left en route to the States.

Captain Dixon, quartermaster, and Captain Clark, commissary, arrived and crossed the river en route to Utah. They bring news that Colonel Sumner had a fight with the Cheyennes on the 29th of July. Large body of Indians formed in battle array, and the cavalry charged with drawn sabers. Twelve Indians were left on the field and many wounded; cavalry lost two men killed, and Lieutenant Stuart and eight men wounded. Captain Foote with his

company of Sixth Infantry bringing the wounded on to Fort Kearney. The fight is said to have taken place on Solomon's Fork of the Kaw River. Colonel Sumner followed the Indians, burned their lodges and other property, and then followed their trail en route to Arkansas. Colonel Sumner established a camp on Walnut Creek, leaving two companies of infantry there, under Captain Ketchum. Sent Lieutenant Lomax to Fort Riley after supplies. This is the first news of Colonel Sumner's command except what the prisoners gave us. Moved camp five miles up river. We think the chances much against Colonel Sumner ever coming to us. For sanitary reasons one camp should not be long occupied: it becomes filthy and the corrals muddy and unclean.

August 24th. Fifth Infantry camped nine miles below crossing en route to Utah. More than half of the regiment said to have deserted since leaving Florida, two months ago.

25th. Fifth Infantry crossed river. Animals in good condition, the credit of which is largely due to my friend "Jim" Miller, the head wagon master, who always herds mules and never starves them at the lariat. He came to me at Riley in the fall of 1855 with the Second Dragoons from Texas, and is one of the very best in his line.

28th. Express arrived from Kearney bringing letters from Captain Foote and Lieutenant Stuart to Lieutenant Riddick, and orders from Colonel Sumner to Lieutenant Riddick for the train to proceed to Kearney, turn in all stores not necessary for use, and proceed to Fort Leavenworth. Colonel Sumner gone to the Arkansas, and will go from there to Fort Leavenworth, where he will probably arrive as soon as we do. Though there has been no hardship in our stay here, there has been a good deal of anxiety. The long suspense is very monotonous, and all are glad to move.

29th. En route to Kearney. When nine miles below the crossing an express arrived from General Harney at Leavenworth, ordering that the train proceed to Ash Hollow and there remain until the arrival of four troops of the First Cavalry and three companies of Sixth Infantry en route to Utah. The order presupposes the train to be at Kearney, and directs Lieutenant Riddick to take supplies from that

post sufficient to subsist the four troops and three companies to Laramie. As he has not sufficient supplies, Lieutenant Riddick determined to proceed to Kearney and procure them, and, unless otherwise ordered, return to Ash Hollow and remain as directed. Camped at Nine Mile Tree.

31st. Camped below O'Fallon's Bluffs at Freemont Spring, the head of big slough that runs paralled with the South Platte, twenty or more miles When coming into camp, an Indian and two squaws with pack-pony dragging lodge and poles crossed the road from the south going north. The "buck" said that they were Sioux; I thought them Cheyennes. When in mid-river, becoming frightened, they cut away their packs and ran, which confirms my belief that they were Cheyennes. I was sorry to see their effects thus thrown away. The poor squaws were safe enough.

September 7th. Camped at Fort Kearney. And now we must part with our Indian prisoners, of whom I have become quite fond, though glad to be rid of the responsibility of holding them. Lieutenant Riddick turned them over to the commanding officer, and they were confined in the guard house. Thirty-nine days they have been with us, and while we have been obliged to be a little severe in keeping them safely ironed, they have been well fed and safely cared for.

9th. We started to return west and camped seventeen miles above the fort on Platte. Dr. Covey accompanied us. The Doctor and I went after buffalo about sunset and killed one each. Dr. Summers, post surgeon, and John Heath, post sutler, arrived from the fort on a buffalo hunt and spent the night with us.

13th. Camped one mile below O'Fallon's Bluffs on head of Freemont's Slough. At 6:00 this evening an expressman arrived from Kearney with orders from Colonel Sumner for the train to remain at Kearney until the arrival of Major Sedgwick's four troops of cavalry and two companies of infantry. The order was sent under the belief that the train was then at Kearney.

14th. On the back track en route to Kearney.

16th. Short distance from camp killed a buffalo while crossing road ahead of train, and before going into camp

Messrs. Stanley and Eskridge killed another; saved abundance of fine meat. Met George Cater, an expressman, en route to Laramie. Lieutenant Riddick received letter stating that all of the cavalry and infantry that were ordered from the Cheyenne expedition to Utah are now ordered to Leavenworth. Camped on Platte.

17th. Camped on Platte. Killed nine prairie chickens with pistols in camp before train came up. Lieutenant Marmaduke, with detachment of recruits for Seventh Infantry, en route to Laramie, arrived and camped with us.

18th. Lying by. Rained all forenoon. In the afternoon Marmaduke and I "still hunted" (hunted on foot) buffalo, but did not kill any. His transportation consisted of two dilapidated wagons, each drawn by six broken-down pack-mules that Captain Foote had brought into Kearney with the wounded men from the Cheyenne campaign. We were going in, and could exchange and give him fine teams and wagons, which we did, and turned over to him another team and wagon for which he receipted; and with it I turned over an experienced man capable of looking after all of the teams; knew the camps, and would take him to Laramie all right. I never saw a better pleased man than Marmaduke—a future major general in the Confederate Army, and later Governor of his native State of Missouri. We invited Marmaduke to join our mess while camped near us, which he did. He had some potatoes, something we had not seen in four months. I would only accept enough for one dinner, which, with my prairie chickens, made a fine feast.

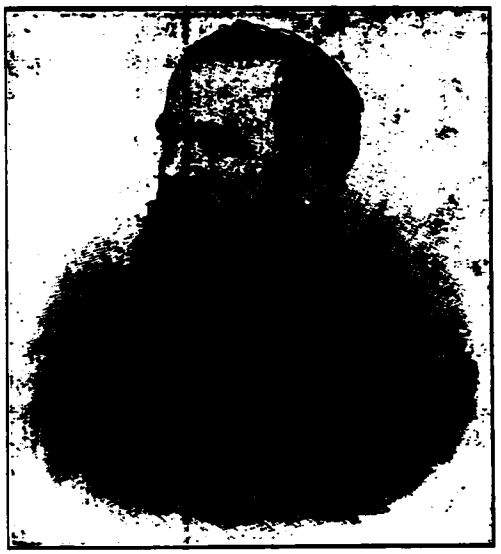
19th. Lieutenant Marmaduke and party went on west and we east. Met "Sim" Routh and Sarcoxie, a Delaware guide, with letters, by which we learn that Major Sedgwick's command of four troops of cavalry and two companies of infantry are waiting for us thirty-two miles below Kearney. Arrived and camped at Kearney. Found Lieutenants Wheaton and Bayard at the fort with orders for Lieutenant Riddick to turn over the train and all other property to Lieutenant Wheaton. We left here all commissary stores not necessary for troops going in to Fort Leavenworth.

20th. Finished turning over property and started down the river at noon. Met Beauvais' and Bisonet's traders' trains for their trading posts near Fort Laramie.

21st. Camped with Major Sedgwick's command on Little Blue.

22d. Camped on Little Blue. Turned over four teams to Captain Ketchum's command. Feed half rations of corn to horses and mules.

23d. When leaving camp this morning met Colonel Albert Sidney Johnston, of the Second Cavalry, in command of the Utah Expedition, and his adjutant general, Major Fitzjohn Porter, with a train of twenty-four mule ambulances, several officers and an escort of the Second Dragoons, en route to Utah. I received orders to select twenty-five of my best mule teams to be left with an escort of cavalry to await the arrival of Colonel Cooke, en route to Utah. Colonel Johnston and Major Porter were waiting by the side of the road, and saw the teams go by. I was sent for, and Colonel Johnston said: "I am told that this is the finest train on the plains." To which I replied that we had exchanged a few good teams for broken-down ones from the Cheyenne campaign; otherwise, the teams and equipments were complete. "Well," said he, "we want the best; we will need them," and he got them. Traveled eighteen miles and camped on Little Blue.



MAJOR-GENERAL FITZJOHN PORTER.

Unloaded twenty-five wagons, fitted up the best teams and equipments throughout, got volunteers to drive them, drew rations for the men, and have everything ready to turn over in the morning.

MAJOR-GENERAL PHILIP ST. GEORGE COOKE.*

24th. Turned over the twenty-five wagons for Col. Cooke's command to Lieutenant Perkins, and two wagons for himself and escort—a small detachment of cavalry. Mr. Patrick took charge of train as wagon master; he was an excellent man and very competent. "Billy" Daniels went as assistant wagon master—a well earned promotion. Camped on Little Blue. An expressman left this morning and another this evening en route to Fort Leavenworth.

26th. Camped on Snake Root Creek. Express arrived this evening from Fort Leavenworth. Col. Cooke's command of six troops of Second Dragoons said to be at Big Blue. The troops of Major Sedgwick's command to be stationed at various points in Kansas for the present.

* Philip St. George Cooke was born in Virginia, and was graduated from the Military Academy in 1827. Brevet second lieutenant infantry, 1st July, 1827; second lieutenant Sixth Infantry, 1st July, 1827; first lieutenant First Dragoons, 4th March, 1833; captain, 31st of May, 1835; major Second Dragoons, 16th February, 1847; lieutenant colonel, 15th July, 1853; colonel, 14th June, 1858; Second Cavalry, 3d August, 1861; brigadier general Volunteers, 12th to 28th November, 1861; brigadier general, U. S. A., 12th November, 1861; retired 29th October, 1873; brevet lieutenant colonel, 20th February, 1847, for meritorious conduct in California, and major general 13th of March, 1865, for gallant and meritorious service during the war. Died 20th March, 1895.

27th. Met Colonel Cooke's command three miles west of Big Blue. Lieutenant Buford, acting quartermaster for the command, had an order to change all the mules he wanted to, taking our best and leaving his worst, which he did, leaving us nothing but a bad lot of mules to go in with. The last of my beautiful train was gone. We were going where forage was plentiful; they were approaching winter, where forage of all kinds would be scarce. Buford trusted to me, and I gave him the best. Crossed Big Blue and camped on Spring Creek. I heard that there were eighty desertions from dragoons since leaving Fort Leavenworth. Captain Ketchum with his two companies of infantry, remains here (Marysville) until after election—first Monday in October, or until further orders.

28th. Arrived and camped at Ash Point, twenty-five miles.

29th. Camped on Nemaha. Seneca is the town (now county seat of Nemaha County, Kansas). Captain Sturgis and Lieutenant Stockton arrived from Fort Leavenworth. G Troop First Cavalry to remain here until after election, B Troop to go to Palermo, A Troop to Claytonville. E Troop to Atchison. I go with twenty-nine teams and all the extra animals to Fort Leavenworth. Twenty-nine years old to-day, and gray enough to be fifty.

30th. Off for Fort Leavenworth at the same time that the command starts down the Atchison road. Four days later, with Lieutenants Wheaton and Riddick, I arrived at Fort Leavenworth and turned over the remnant of property in my charge; the Cheyenne campaign had ended, but the troops were still in the field, keeping peace at the polls, a more irksome business for soldiers than fighting Indians.

The day after my arrival Colonel Sumner sent for me and inquired particularly about what I saw of the compaign;

said he had heard a good account of my part in it from various sources, and especially from Mr. Riddick; said that my train had the reputation of being the finest ever seen on the plains, and the best managed; in short, he was very profuse in his praises. He was especially interested in knowing my idea of the flight of the Cheyennes north, after his battle with them; I told him how things looked where I burned the camp, and all information gained from the Indian prisoners and by scouting in the neighborhood, but I did not venture an opinion, nor did he ask me to. He had probably made history that would redound to his credit, and whether he followed the right or the wrong trail after the battle, he did the best that an earnest persevering commander could do, with the light before him; and I think that the general verdict of his command was that he did well, and that is the highest court by which a man can be tried.

After Colonel Sumner's command was "sifted" where he left us on the South Platte, he went into the field with as fine a set of officers and men as I ever saw. The civilians with his pack train—"Big Nick" Beery at the head—were the best we had. (See Mr. Peck's letter in Historical Society's Collections, heretofore referred to.)

The civilians who were with me four and a half months were from all parts of the continent and some from Europe. Probably one-third of them born in the United States, representing a dozen States and Territories, most of them from Missouri and Kansas. Then there was the hardy, cheerful, untiring "Canuck" (Canadian)—more than twenty of them—always skillful and willing, wet or dry, feasting or fasting; and the Mexican, patient and uncomplaining always—he will squat over a fire no larger than his hand with his serape about him, smoke his cigarette or munch his "hard tack" cheerfully. A few Germans, careful of their teams, always ready and willing—and the never failing Irishman with his unbounded energy and snap. In short, as I look back in memory to the motley crowd I see more than an average set of men.

I am told that Mr. Beery still lives in Montana. Except him I know but two living—Mr. K. B. Cecil, a wealthy

farmer of Platte County, Mo., and "Sim" Routh of Easton, in Leavenworth County, Kansas—always a good citizen and prosperous. Of all the officers of that expedition, I do not think there is one living. Of the enlisted men I know of but one, Mr. R. M. Peck of Whittier, California. Probably there may be others. I came near overlooking the fact that I am here and hope to remain for some time, though my lease is rather shaky.

THE EFFECTIVENESS OF RIFLE FIRE.

By Captain S. D. FREEMAN, Tenth Cavalry.

THE data upon which the following discussion is based was taken from the target records of four troops of cavalry for the season of 1904. The average figure of merit of two of these troops is 42; that of the other two is 79; the figures of merit of the two grouped together in each case being very nearly the same. The average of the four, 60.5, is well above the average of the Army for 1903, which is given as 35.4.

The discussions that the writer has seen of the effectiveness of fire, have impressed him as taking too much account of the errors of the arm and too little of the individual errors of the firer and of other accidental errors whose probable effect upon the accuracy of fire seems to be many times greater than the effect due to errors of the arm. The perfection of the arm and ammunition are important and worthy subjects of study, but their average effectiveness under service conditions is determined by factors that greatly overshadow the constants of the arm. The discussions of this matter which are limited to the theoretical accuracy of the piece and the form of the trajectory and which leave out of consideration those personal and accidental errors, which, by comparison, are of so much greater moment in practice, do not form a sufficient basis for a practical estimate of the effectiveness of fire under service conditions either upon the range or upon the field of battle. An entirely separate determination of the probable dispersion and distribution of the shots as fired by the soldier is demanded.

The deviation of shots from the point of aim upon a target are the resultants of a combination of accidental errors. As every effort is made in target practice to limit and

control both constant and accidental errors, all constant errors will, in a long series of trials, or shots, by a large number of men, tend to be eliminated. This will be the more certain as the skill of the firer is increased.

The departures of the shots, then, from the point of aim, will be the residual, accidental, unavoidable errors inseparable from the complex factors of men and arms.

A large number of shots will, then, arrange themselves according to the law of errors; that is, errors in all directions will be equally common, small errors being the more numerous, very small errors much less numerous, very large errors still less numerous, and beyond a certain limit no errors will occur.

Translating this to the face of the target, the great majority of shots will be found within a short distance of the bulls-eye, a few within it, and beyond a certain limit none will stray. They will be distributed equally in all directions from the center of impact, which is assumed, for the reasons given above, to be the center of the bulls-eye. If this be not so as a rule, then we have only to transfer the origin to the ascertained point and all the following deductions hold equally well.

From the records of the four troops above referred to, were counted the number of hits of the various kinds and the misses made in the individual firing at the ranges 200, 300, 500 and 600 yards. The results and certain combinations of them are given in the following table:

TABLE A.

Troops.	No. of Men.	Shots Recorded. 5	4	3	2	0	Total.
200 YARDS.							
W.	64	27	190	232	102	89	640
X.	63	23	171	211	119	106	630
Y.	63	43	273	223	64	22	630
Z.	65	56	261	234	67	32	650
Sum of four	255	154	895	900	352	249	2550
300 YARDS.							
W.		26	192	208	105	109	
X.		17	181	220	96	116	
Y.		52	281	211	66	20	
Z.		37	297	219	68	29	
Sum of four		132	951	858	335	274	2550

500 YARDS.

Troops.	Shots Recorded. 5	4	3	2	0	Total.
W.	66	125	134	152	163	
X.	45	143	142	144	156	
Y.	100	197	154	127	52	
Z.	132	196	143	126	53	
Sum of four	343	661	573	549	424	2550

600 YARDS.

W.	45	74	94	161	266	
X.	37	74	80	134	305	
Y.	69	152	163	142	104	
Z.	82	156	163	132	112	
Sum of four	233	456	505	569	787	2550

TABLE B.

Combined Data for Four Troops.

Sum of four: Range.	5	4	3	2	0	Total
200 yards	154	895	900	352	249	2550
300 yards	132	951	858	335	274	
500 yards	343	661	573	549	424	
600 yards	233	456	505	569	787	
Reduced to total of 1000:						
200 yards	60	351	353	138	98	1000
300 yards	52	373	337	131	107	
500 yards	134	259	225	215	167	
600 yards	91	179	198	223	309	
Mean of ranges 200 and 300	56	362	345	135	102	1000
Mean of ranges 500 and 600	113	219	212	219	237	1000

The first problem is to determine from these figures the probable distribution of the shots upon and about the target. The fact that the targets are rectangular and that the outer portion in which the twos are recorded is of such a shape as to make it difficult to determine beforehand what proportion of shots within a given distance should be twos and what zeros, adds a little to the apparent difficulty of the problem.

It is necessary to know how many shots in a series of any number will fall upon any portion of the target, or rather, upon any portion of its plane. In other words, the density of the shots at any point of the extended target and the limits beyond which no shots occur is desired. This is indirectly ascertained by constructing a curve, Figs. 1 and 2, such that the area between the curve and the axis of

abscissas shall represent the entire number of shots of the series; the abscissas corresponding to distances measured from the center of the bulls-eye, and such that the areas between any portion of the curve, the ordinates of its extremities and the intercept on the axis of abscissas, shall represent the number of shots upon a ring whose radii, measured from the center of the bulls-eye, correspond to the abscissas of the two ordinates respectively.

Before proceeding to construct such a curve, it is convenient to put down for reference and further use the dimensions and areas of portions of the targets "A" and "B" in the following:

TABLE C.

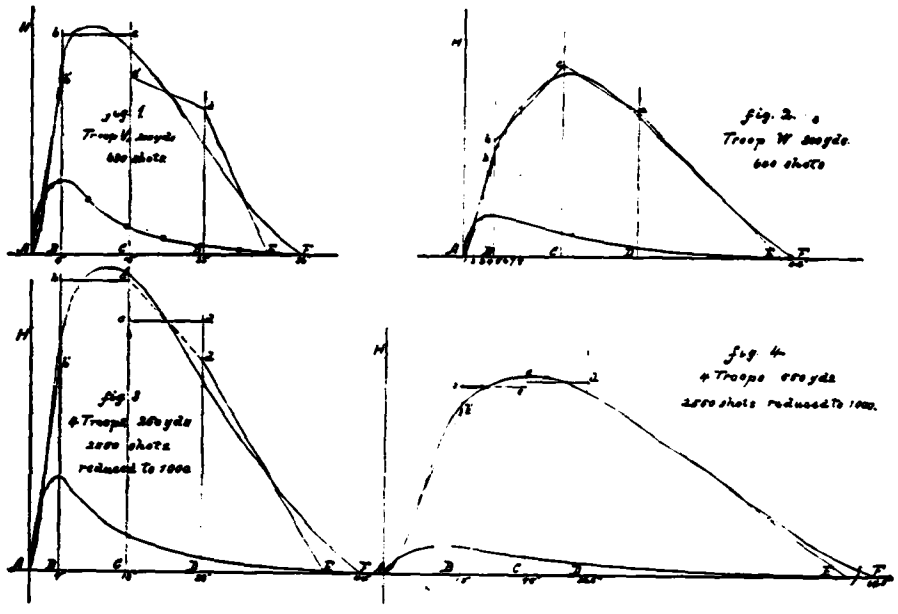
	Target "A."		Target "B."	
Bullseye:				
Radius	4	in.	10	in.
Area	50	sq. in.	314	sq. in.
4 Ring:				
Radius	13	in.	18.5	in.
Area circle	531	sq. in.	1075	sq. in.
Area ring	481	sq. in.	761	sq. in.
3 Ring:				
Radius	23	in.	26.5	in.
Area circle	1662	sq. in.	2206	sq. in.
Area ring	1131	sq. in.	1131	sq. in.
Circle circumscribing target:				
Radius	43.2	in.	50.9	in.
Area without	40.8	sq. ft.	56.5	sq. ft.
Area without target	16.8	sq. ft.	20.5	sq. ft.
2 space within	12.5	sq. ft.	20.7	sq. ft.

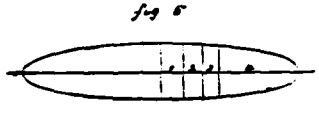
The ring between the circumscribing circle and the "3 ring" might be called the "2 ring," though no especial use is made of it in this discussion.

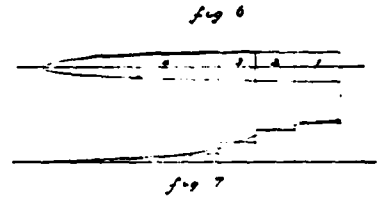
Now, to illustrate the construction of a curve, such as described above, take the record of Troop W at 200 yards.

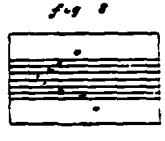
On Fig. 2 lay off from the origin A abscissas to B, C and D, equal to the radii of the 5, 4 and 3 rings, target "A," scale one inch to one-tenth, and draw the ordinates at those points.

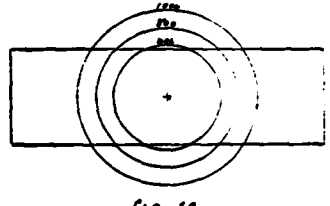
Upon the base AB, four inches, construct an area, a rectangle, or better, a triangle, ABb, whose measure is equal to twenty-seven, the number of fives in the record of the troop, Table A.

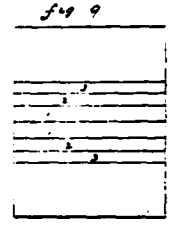












Construct upon BC a rectangle, or a trapezium BCbc, whose area, 190, equals the number of fours; upon CD construct the trapezium CDcd having the area 232, the number of threes; beyond the point D construct the triangle DdE with an area equal to 191, the number of twos and zeros combined.

Having regard to the laws of errors, draw the upper curve so that its different segmental areas shall be as nearly as possible equal to the corresponding polygonal areas. The curve in Fig. 1 is constructed in a similar manner from the record of Troop Y for the same range.

If these curves be correct, their total areas will be equal to the total number of shots in each series respectively, and the area of any segment will be the number of shots in the circular ring, whose radii correspond to the abscissas of its limits.

The areas of the curves in Figs. 1, 2, 3 and 4 were integrated by the approximate geometrical method of measuring ordinates at equal intervals of one inch, beginning one-half inch from the origin; each ordinate is then the middle ordinate of its segment and the measure of its area; see Fig. 2. The results of these measurements are given in the following tables. They indicate the accuracy both of the form of the curve and of the drawing.

Troop W, 200 Yards, Radial Density.

FIG. 2.

Ordinate.	Measure.	Total.	Ordinate.	Measure.	Total.
1	0.8		24	19	
2	4.4		25	18.	
3	9.0		26	17.	
4	13.	27.2	27	16.	
5	15.6		28	14.9	
6	17 5		29	13.9	
7	19.4		30	12.8	
8	21.		31	11.9	
9	22.		32	10.9	
10	23.1		33	9.9	
11	24.		34	8.8	
12	24.7		35	7.9	
13	25.	192.3	36	7.	
14	25.		37	6.	
15	25.		38	5.	
16	24.9		39	4.	
17	24.5		40	3.	
18	24.		41	2 2	
19	23.4		42	1.5	
20	22.6		43	0.9	
21	21.7		44	0.3	190.9
22	20.8				
23	19.8	231.7			

Aggregate measured, 642.1; shots fired, 640.

	From Record.	From Curve.
Shots in 5 ring	27.	27.2
Shots in 4 ring	190.	192.3
Shots in 3 ring	232.	231.7
Shots without 3 ring	191.	190.9
Totals	640.	642.1

Troop Y. 200 Yards. Radial Density.

FIG. 1.

Ordinate.	Measure.	Total.	Ordinate.	Measure.	Total.
1	1.5		24	14.4	
2	7.5		25	12.8	
3	15.		26	11.3	
4	24.	48	27	9.7	
5	29.		28	8.3	
6	30.6		29	7.	
7	31.4		30	6.1	
8	31.5		31	4.8	
9	31.4		32	3.6	
10	31.		33	2.7	
11	30.4		34	1.9	
12	29.8		35	1.	
13	28.7	273.8	36	0.3	83.9
14	27.5				
15	26.6				
16	25.4				
17	24.3				
18	23.1				
19	21.7				
20	20.3				
21	19.				
22	17.5				
23	16.	221.4			

Aggregate measured, 627.1; shots fired, 630.

	From Record.	From Curve.
Shots in 5 ring	48.	48.
Shots in 4 ring	273.	273.8
Shots in 3 ring	223.	221.4
Shots without 3 ring	86.	83.9
Totals	630	627.1

Mean of four troops. 250 Yards, Radial Density.

FIG. 3.

Ordinates.	Measure.	Total.	Ordinates.	Measure.	Total.
1	1.4		24	25.2	
2	8.5		25	23.5	
3	18.3		26	22.	
4	28.4	56.6	27	20.5	
5	34.4		28	18.9	
6	37.8		29	17.5	
7	39.8		30	16.1	
8	41.		31	14.7	
9	41.4		32	13.3	
10	41.8		33	12.	
11	41.9		34	10.6	
12	41.7		35	9.5	
13	41.3	361.1	36	8.3	
14	40.4		37	7.1	
15	39.5		38	6.	
16	38.2		39	5.	
17	37.		40	3.9	
18	35.6		41	3.	
19	34.		42	2.	
20	32.2		43	1.	
21	30.3		44	0.3	240.4
22	28.6				
23	27.1	342.9			

Aggregate measured, 1001.0; shots, 1000.0.

	From Table B.	From Curve.
Shots in 5 ring	52.	56.6
Shots in 4 ring	362.	361.1
Shots in 3 ring	345.	342.9
Shots without 3 ring	237.	240.4
Total	1000.	1001.0

Mean of four troops. 550 yards. Radial Density.

Ordinates.	Measure.	Total.	Ordinates.	Measure.	Total.
1	0.3		32	22.1	
2	1.6		33	21.4	
3	3.7		34	20.6	
4	6.4		35	19.9	
5	9.5		36	19.3	
6	12.3		37	18.4	
7	16.		38	17.6	
8	18.8		39	17.	
9	21.		40	16.1	
10	23.	112.6	41	15.4	
11	24.		42	14.9	
12	24.8		43	14.1	
13	25.5		44	13.4	
14	26.		45	12.7	
15	26.4		46	12.	
16	26.6		47	11.3	
17	26.9		48	10.6	
18	27.		49	10.	
½19	13.5	220.7	50	9.3	
½19	13.6		51	8.6	
20	27.2		52	7.8	
21	27.2		53	7.1	
22	27.1		54	6.4	
23	26.9		55	5.7	
24	26.5		56	5.	
25	26.1		57	4.4	
26	25.7		58	3.6	
½27	12.6	212.9	59	3.	
½27	12.6		60	2.3	
28	24.6		61	1.8	
29	24.		62	1.2	
30	23.3		63	0.8	
31	22.6	107.1	64	0.4	354.2

	From Table B.	From Curve.
Shots in 5 ring	113	112.6
Shots in 4 ring	219.	220.7
Shots in 3 ring	212.	212.9
Shots without 3 ring	456.	461.3
Totals	1000.	1007.5

The measured ordinate may be taken, therefore, as representing, with a high degree of probability, the actual number of shots in each case found in a circular ring one inch in width and whose larger radius corresponds to the ordinate number of the ordinate in each series.

If these numbers be now divided by the areas of the rings to which they belong, the ratio will represent the number of shots per unit of area within that ring, or, as it may be called, the sectional density of the shots at its distance from the center.

Having determined these sectional densities for a sufficient number of points, or distances from the center, a curve may be constructed whose ordinates show the varying densities at all points of the target from the center outward.

The lower curves in Figs. 1, 2, 3 and 4 were constructed in this manner from the following computed sectional densities.

For comparison of these figures reference must be had to the number of shots in each series:

SECTIONAL DENSITIES.

Ord.	Troop W. 200 Yds.	Troop Y. 200 Yds.	Ord.	Mean of 4. 250 Yds.	Mean of 4. 550 Yds.
1	0.254	0.478	1	0.445	0.095
2	0.467	0.796	2	0.902	0.170
3	0.573	0.955	3	1.165	0.236
4	0.591	1.091	4	1.291	0.291
5	0.552	1.026	5	1.216	0.336
6	0.506	0.886	6	1.094	0.347
7	0.475	0.770	7	0.952	0.392
8	0.446	0.668	8	0.870	0.399
10	0.387	0.519	10	0.700	0.385
13	0.318	0.365	13	0.526	0.325
18	0.218	0.210	18	0.324	0.246
23	0.140	0.113	23	0.192	0.187
28	0.086	0.048	28	0.109	0.141
33			33	0.059	0.104
			48		0.036

We can now proceed to discuss these data in detail.

THE ENVELOPING SURFACE.

The shots are supposed delivered from the same point.

The mean trajectory is that which passes through the center of the bulls-eye, the point of aim, and corresponds exactly to the range and direction. About this are grouped the other trajectories, forming what is commonly called the sheaf

when referring to the deviations of the arm. The enveloping surface is the locus of the extreme trajectories.

If the trajectories were straight, this surface would be a cone of circular right section. As the trajectory is a curve, this surface is horn-shaped, and, taking a slight liberty, it is proposed to call it a "Corne;" vide Cornu.

The curvature of the mean trajectory being very small, and the angle of the corne likewise very small, sections of the corne by planes are very nearly circles or ellipses, and are taken to be such in this discussion.

COMBINED DATA.

An inspection of the observed data, tables A and B, shows the following:

Within the	Troops W and X. 4 Ring.	Troops W and X. 3 Ring.	Troops Y and Z. 4 Ring.	Troops Y and Z. 3 Ring.
200 yards	411	854	647	1104
300 yards	416	844	647	1077
500 yards	370	655	625	922
600 yards	220	394	659	900

Within the	Four troops combined. 4 Ring.	Four troops combined. 3 Ring.
200 yards	1049	1949
300 yards	1063	1941
500 yards	1004	1577
600 yards	659	1194

From which it is apparent that the targets at 200 and 300 yards are practically identical for each troop; a fact due, undoubtedly, to the advantage of the firing position at 300 yards. The targets at 500 and 600 yards are much more nearly inversely proportional to the ranges as they should be. The ratio of the ranges is 1.2, while the ratio of the shots within the 4 ring is 1.47, and within the 3 ring 1.32. The 600 yards target is a little worse than the increase of distance requires.

This would indicate, and it is probably true, that an increase of the distance of the point of aim from the firer produces a dispersion of shots greater than is warranted by the difference of distance. The personal, as well as the atmospheric factors, undoubtedly increase in effect with the

increase in distance, but the law of their variation is, so far, undetermined.

The above comparisons justify, for the sake of doubling the number of independent observations, the combination of the targets at 200 and 300 yards, with a mean range of 250 yards, and the combination of those at 500 and 600 yards, with a mean range of 550 yards. This very much decreases the probable error of further deductions.

From the combined target of four troops at the short and mid ranges, were constructed the curves in Figs. 3 and 4.

The combined target at 550 yards is used in the discussion as giving greater probable conformity to fire at long ranges, the effect of which it is desired particularly to discuss. For convenience, the number of hits was proportionally reduced to correspond to a total of one thousand.

SECTION OF THE CORNE BY HORIZONTAL PLANES.

The planes of horizontal section are through the point of fire and the point of the mean trajectory corresponding to the range. At the long and mid ranges, the sections approximate very closely to ellipses. At the very short ranges they would approach more nearly, perhaps, an elongated oval form. Fig. 4 gives the radius, AF, of a right section of the corne at 550 yards, or the limit beyond which no shots occur, as sixty-five inches, abscissa of the extreme point.

From this and the angle of fall for the carbine, the elements of the horizontal sections of the corne at different ranges were computed as follows:

Range.	Semi Minor Axis.	Semi Major Axis.	Area.
400 yards.	47 inches.	4792 inches.	538 square yards.
600 "	71 "	3549 "	596 " "
800 "	95 "	2829 "	634 " "
1000 "	118 "	2348 "	655 " "
1200 "	142 "	1987 "	668 " "
1500 "	177 "	1584 "	665 " "
1700 "	201 "	1374 "	654 " "
2000 "	236 "	1114 "	624 " "

From which it is apparent that a much greater depth of ground in the direction of fire is covered as the range is

shortened, while, if the fire is from a single point, practically the same area is swept at all long and mid ranges.

This rather curious result means that, under the assumed conditions of fire, the whole number of bullets will fall within practically equal areas at all ranges. This does not signify, however, that the fire will be equally effective at all ranges.

The ellipse of horizontal section for 2000 yards is shown in Fig. 5 and one-half that for 1000 yards, to the same scale, in Fig. 6.

SEGMENTAL AND ZONAL DENSITIES.

As in actual conflict the shots are not concentrated upon a single point, but are, in the normal case, distributed along a section of front, it becomes important to ascertain how they are distributed. For convenience, suppose the circular vertical section of the corne at 550 yards divided into segments by horizontal lines tangent respectively to the bulls eye, the four ring and the three ring, giving in each half section four segments. These segments will be projected by the trajectories into corresponding segments of the ellipses of horizontal section and the shots in each will have the same relative distribution with respect to the center.

The projections of these segments in the ellipses of horizontal section for 2000 and 1000 yards are shown in Figs. 5 and 6, respectively.

As the mathematical expression for the sectional density above tabulated is not known, recourse was had to an approximate integration based upon the mean sectional density of each ring of the target. These mean densities are approximately —

For the 5 ring	0.306 per square inch.
" " 4 "	0.300 " " "
" " 3 "	0.155 " " "
" " outer ring	0.047 " " "

These figures are slightly too large, as a computation made with them gives for the entire target sixty-two shots too much.

Reducing the computed numbers in each segment proportionally, gives, very nearly, for the segments, numbered in order from the center, outward—

Segment 1	170 shots	Segment 2	120 shots
Segment 3	70 shots	Segment 4	140 shots

Total of 1000 for the entire target.

With these numbers and the areas and depths of the segments at any range, a curve of segmental densities may be constructed, just as the curves in Figs. 1 and 2 were constructed. Fig. 7 shows the segmental density of the ellipse at 1,000 yards, the ordinates being densities per foot of major axis; that is, they represent the number of shots per foot from the center either forward or back.

To illustrate the application of the sectional and segmental densities, take the case of the collective fire of these four troops.

A tolerably accurate measurement of the surface of the silhouette figures used in target practice, gives for a set of three, one of each kind, a total area of 2,020 square inches.

As the targets are arranged for collective fire, the trajectory at 1,000 yards, which passes just above the heads of one set, falls just at the feet of the next. The entire target (Fig. 10), viewed as perpendicular to the trajectory, is enclosed in a rectangle whose area is 59.136 square inches.

This is obtained under the supposition of an interval of two inches between the figures in each row, which, it is believed, is practically not far wrong. The ratio of the entire surface of the figures to the surface of the rectangle is 0.5466. At the shorter ranges the rows of figures overlap somewhat in the center of the target where the fire is densest. This gives a little advantage at the shorter ranges to the effect of the fire. Assuming, however, that the vulnerable area of the target is the same at all ranges, and computing the number of shots in the intercepted segment of the corne at the different ranges, using a curve of segmental densities, such as described above and figured for horizontal sections in Fig. 7, gives for the probable number of shots within the rectangle per 1,000 shots—

At 1000 yards	800
At 800 yards	814
At 600 yards	1000, nearly

These troops fired a total of 212 men at collective fire, giving a total of 1,272 shots at each range.

Reducing the number above for 1,000 shots to the proportion for 1,272, and applying the ratio 0.5466, gives the following comparison of the actual and computed effect of the fire:

1000 yards	556 computed.	574 recorded hits
800 yards	566 computed.	527 recorded hits
600 yards	695 computed.	763 recorded hits
Total	1817 computed.	1864 recorded hits

A small allowance for ricochets and double hits will more than account for the discrepancy above. While momentary conditions on the range may produce much larger discrepancies than these, yet this comparison shows that, in the long run, the actual results will approach very closely the computed.

Because the distribution of hits in the horizontal areas is as found above, it does not follow that the effectiveness of fire upon objects within that space will be in proportion to the number of shots falling there. That would be true if the vulnerable target were in the horizontal plane, which in general it is not. The probability of being hit would depend rather upon what portion was intercepted by the target.

As the so-called dangerous space for any trajectory extends from the point of impact upon the horizontal surface toward the firer, the area of greatest effect for a vertical target will be removed in the same direction by about half this "dangerous space" for that target. As the real horizontal dangerous space includes all that in which a man is liable to be hit, the ellipse must be increased by adding to it the so-called dangerous space on the side next the firer.

This might be considered as making questionable the old rule, so much insisted on, to "fire low." The rule may have just application at times and with certain classes of troops, but it hardly seems good judgment to instruct trained marksmen to remove the zone of maximum effectiveness of their fire further away from the enemy than is unavoidable.

Keeping in mind, then, this actual shifting of the area of maximum effectiveness toward the firer, there will be no con-

fusion in discussing the matter as if the total area of effectiveness and the horizontal ellipses were coincident.

Suppose, instead of proceeding from a single point, the fire is delivered by a line of men to the front, as a normal case. Take one hundred men at one yard interval, and suppose their fire to cover the same interval. The elongated ellipse may be considered as moving laterally over the same interval and distributing its shots uniformly over a zone 100 yards in length and of a depth equal to its major axis.

The segments of the ellipse will spread out into corresponding partial zones, within which will be distributed the shots belonging to that segment. Thus the two middle zones will contain 170 shots each, the next outer 120 each, the next 70 each, and the outer 140 each.

It is evident that this lateral distribution of the shots must be pretty nearly uniform parallel to the front.

The distribution outward from the center will be relatively the same as in the zones of the ellipses and of the circular sections of the corne. The development of the zones and partial zones for 1000 and 2000 yards are shown to the same scale in Figs. 8 and 9. The area swept by the fire is now no longer constant for all ranges, but is proportional to the major axis of the elipses of section, or the depth of the zone. The curve of zonal density will be precisely similar to the curve of segmental density shown in Fig. 7.

This curve shows that the density decreases from the center outward, slowly at first, then more rapidly in the second and third partial zones, and again very slowly in the outer.

The proper measure of the density of fire is not, however, the relative number of shots that fall upon a unit of the surface of the ground, but the relative number falling upon the unit of surface taken perpendicular to the trajectory, as previously taken in sections of the corne.

The segments of this circle, taken at 1000 yards, spread out, under the supposition of line fire, into zones 100 yards in length and of area, are as follows:

First	50	5	square yards
Second	42	5	" "
Third	40	4	" "
Fourth	194	4	" "

Dividing the entire number of shots in each zone by the above areas gives the mean density per square yard of zone as follows:

First	3 34
Second	2.82
Third	1.73
Fourth	0 72

These numbers, being based upon the delivery of 1000 shots, may be called the static densities for those zones.

As the fire will generally be delivered continuously, and the target may be in motion with respect to the firing line, it is necessary to consider time as an element both of the density of the fire and of the danger from enduring it.

The time of flight of the bullet within the zone of fire is so small that all personal movements may relatively be neglected and the bullet considered as actually present throughout its entire effective path within the zone.

Suppose the 1000 shots to be delivered in five minutes; as there are 300 seconds in five minutes, in each second there will be delivered $3\frac{1}{3}$ shots, or there are that number of shots actually existent within the zone each second.

Of this number, each partial zone will receive its portion in the ratio of $3\frac{1}{3}$ to 1000, and the actual or momental density at the instant will be the static density multiplied by this ratio.

VULNERABILITY, RISK AND DANGER.

The vulnerability of an individual may be said to be proportional to the surface which he presents normal to the trajectory. As a man possesses thickness as well as height and breadth, and as the angle of fall within 2000 yards is less than twelve degrees, it is hardly necessary to apply any correction for inclination to the trajectory, except, perhaps, in special cases. Taking the silhouette figures as a standard, a man standing presents to fire about 0.7 square yard, kneeling about 0.5 square yard, and lying about 0.25 square yard. These areas may be considered as his vulnerability.

A man's risk within a zone of continuous fire may be said to be the product of his vulnerability by the actual momental

density at his position and his danger to be the product of his risk by his time of exposure. If all the shots are delivered at once, his risk and his danger become the same. Or, if he remains in position during the delivery of the entire number of shots, the danger is the same, as is the case in collective fire practice.

Assuming the conditions as above, the mean momental densities for the different zones are found to be about as follows:

Zone 1	0.0112
Zone 2	0.0094
Zone 3	0.0058
Zone 4	0.0024

Assume a man standing to advance uniformly across the 130 yards of the zone of fire at 1000 yards in one minute. Computing the time he is within each zone, and multiplying these by the momentary densities and by his vulnerability, gives his expectation of being hit, or his danger, in each zone. In Zone 1 it is 0.0744; in Zone 2, 0.0519; in Zone 3, 0.0299; in Zone 4, 0.0598; total danger for the transit, 0 216. That is, if 100 men advance through this zone of fire as assumed, the probabilities are that twenty-one of them will be hit.

From these figures it appears that the man's danger in the outer zone of small density is greater than in any except the center, because it is so much broader, though his risk within it is much less at any instant than in any of the others and his danger less for equal distances advanced. Of course these figures are not strictly true, even for the assumed data, as a part of the advancing man's person may be exposed at a given instant to different densities of fire in different partial zones.

The slope of the ground upward or downward at the place of impact has no effect upon the risk of the individual within the zone of fire. It does, however, decrease his danger of transit by decreasing the depth of the zone on the surface if the slope be upward toward the rear and, at an increasing rate, augments his danger by increasing the depth of the zone on the ground if the slope be downward toward

the rear, because he is required to spend a shorter time under fire in the one case and a longer in the other. The danger of the individual is, therefore, decreased in the transit through the zone when the slope is downward toward the firer and, in a greater degree, increased in the opposite case, provided his rate of advance along the surface is the same in each case. In the case of a reverse slope, also, a much greater number of men may be placed within the zone of fire, and, if the slope is not steep enough to protect from fire, they are in the worst possible position for that range.

COMPARATIVE EFFICIENCY.

Comparing Figs. 1 and 2, we see that the point of greatest radial density occurs for Troop Y at about seven and one-half inches from the center and for Troop W at about fourteen inches.

The maximum sectional density occurs for each very close to the edge of the bulls-eye. The maximum for Troop Y is considerably greater and the density increases and decreases more rapidly than for the less skillful troop. Beyond thirteen inches there is a little difference in favor of Troop W.

The general effect is, however, that the poorer marksmen have distributed their shots over a larger area, but more uniformly than the others. This, of course, would follow in the distribution of shots in the partial zones, extending the limits of the zone, decreasing the density toward the middle and increasing it toward the outer partial zones. There is, therefore, an extension of the area over which the fire of the poorer shots may be considered effective, though it nowhere reaches the maximum efficiency of the better marksmen.

The same law would undoubtedly apply as the skill of the firers decreased, within limits.

A small error, then, in the estimated range might throw the enemy entirely beyond the zone of effective fire of the best marksmen, but still leave him within a comparatively effective fire by the poorer. Momentary atmospheric con-

ditions would tend to produce the same result. It becomes, then, a question of the limit of error in determining the range and a question of greater moment as the skill of the marksmen arises. Thus an error of thirty yards at 2000, or of sixty-five at 1000 yards will throw the combined group of shots we have been discussing entirely in front of or behind the enemy. If all the men were expert shots and the ranges were accurately determined for them, their fire within the radius of their weapon would probably be the most effective that could be had. But if the experts are put in with the others and under the same conditions, much of the value of their skill will be lost, and it is difficult to see that they have much advantage over the just ordinary shots.

BATTLE CONDITIONS.

Of course in this discussion battle conditions have not been assumed. The deductions are based upon what is presumably the best results this group of men can produce under the most favorable conditions of range shooting.

The complex and unpredictable conditions of battle are subject to too many variations, and their ultimate effect could only be estimated by taking the average of a good many opinions and a good many experiences into consideration.

Each one who wishes may do that for himself and predict or estimate the variations from the foregoing conclusions that must result. It is well to cite one principle upon which all seem to be agreed, that is, that the shooting will be much poorer in battle than it is on the range.

Therefore, as we have seen above, the fire will be distributed more uniformly over a much deeper zone than here found and the importance of knowing the exact range be correspondingly reduced. At the short ranges, practically all the ground is covered by the fire, and the necessity for estimating the range ceases. The value of the expert marksman in the ranks will probably be found within the mid ranges rather than without.

TARGET PRACTICE: A PROPOSED ADDITIONAL COURSE.

By Captain HARRY H. PATTISON, Third Cavalry.

THAT the measure of efficiency of a soldier is his ability to injure the enemy by use of his rifle is unquestioned. That a man with no previous knowledge of guns will be able so to injure the enemy to a useful extent is not to be supposed, for man must learn all things by study and practice. Therefore it is evident that to make an efficient soldier, the man must be taught the use of his rifle, and practiced until he can use it effectively.

It naturally follows that the course of training should be such as will give the greatest results in battle. But while the battle result is the ultimate object, the course of training cannot be limited entirely by it. Human nature must be considered. Present interest must be obtained. A loyal desire to become an efficient defender of one's country for some future occasion does not gain men's interest so quickly, nor hold it so steadily, as the desire to excel others, or the possibility of gaining a substantial reward. Consequently the latter two motives must be the most relied upon. For various reasons the money reward can be gained by comparatively few, and the ambition to excel must remain the principal motive to which appeal can be made. Starting with untrained men, the training should be progressive and competitive; progressive, that each step forward may be taken from a firm footing, and that there may be always something more to be learned or gained: competitive, that interests and rivalry may be aroused and held.

Our present system follows these lines. In each course a certain proficiency is required before the soldier is allowed to pass on to the next and more difficult one. Competition is

introduced by arranging men into classes according to proficiency; by comparing the results obtained by organizations, posts and departments; by post. division and army competitions, where the best shots of the different organizations are gathered to compete for medals and places on the different teams. The questions now arise: Does the present system give the desired result, and can it be improved with the present allowance of ammunition so that it will give better results?

In answer to the first question I would say no. By that I do not mean to say that our soldiers are not fairly well trained in the rudiments of rifle shooting, nor that there are not many good shots among them. But would they effect results in battle comparable with their target records, even making a liberal allowance for excitement and nervousness? I believe not, and for the same reason that a man is often a good target shot and a poor game shot—he does not know his gun intimately enough.

Our present firing regulations are admirable as far as they go, and a great improvement over the previous ones. The fundamentals of holding, aiming and firing are taught in progressive steps, fixed and tested by the prescribed courses. By the introduction of rapid fire in the marksman's and sharpshooter's courses, one step was taken in the better training for the later stages of battle; but should we not go farther? Men who have successfully passed the marksman's and sharpshooter's courses will undoubtedly obtain good results in battle as long as they are firing at still targets and are thoroughly under control of officers who know accurately the ranges. But these conditions will exist in the earlier stages only. As the fight progresses, officers will be more distant from the flanks, and the noise of firing will drown their instructions; finally at the decisive stage men will be almost entirely dependent on themselves. The targets that will be presented to the defensive will be moving rapidly and at varying ranges; for the offensive the ranges will be varying, and the targets will appear and disappear quickly. There will not be time enough to estimate the distance, adjust the sight and then take a careful aim. The habits formed in their training will then control men's fire, and, to do the most effective work, they will have to know their guns thoroughly.

In the prescribed courses the soldier is taught, or should be, to use a measured and fixed amount of front sight. This is absolutely essential for correct instruction and for accurate long range firing. But after a man has mastered the principles, and his errors have been discovered and corrected, it is not necessary for short and mid-ranges with a high power rifle. He can then be safely taught to point his gun instinctively as he would a hose, so that, when taking aim, he will vary the amount of front sight seen according to the apparent distance of the target without any mental statement of the range in yards.

The difficulty of getting men to lower their sights as they advance under fire is well known. With the Springfield rifle, model 1903, at 600 yards a change of 100 yards in the elevation of the rear sight will displace the bullet 45.2 inches; at 500 yards a corresponding change displaces the bullet 32.4 inches, and at 400 yards, 22.8 inches; so that if the soldier, after getting closer than 500 yards, forgets to change his sight he will have small chance of hitting the enemy. While if he were taught to set the sight at zero for short and mid-ranges, and to vary the amount of front sight seen according to the apparent distance of the object, he would in case of error, be more likely to make the desirable mistake of shooting low. The officers, too, would be more likely to see that all sights were lowered at 600 yards than at each successive halt as the line approached the enemy and became more fiercely engaged. Long-range firing with a uniform amount of front sight would not be interfered with, for the habit would be acquired of using the same amount of front sight for the apparent range, in the same way as that of varying the amount at the shorter ranges.

The following course is suggested for this training:

Instruction course: Position at all ranges, prone; rear sight at all ranges set at zero elevation. Target, slow fire same as present targets for short and mid-ranges; rapid fire, same as present rapid fire target, but arranged to move from right to left and reverse, and to be exposed twenty seconds for short

range and thirty seconds for mid-range. Slow fire: minimum of two scores at 200, 300, 400, 500 and 600 yards; no time limit and each shot to be marked. Rapid fire: minimum of two scores at moving target at each of the above ranges, the rapid fire to follow immediately after the slow fire at each range.

Record course: Same as minimum instruction course, except that in slow fire a time limit of one minute per shot.

It will now be asked, Who will take this course? The expert riflemen and sharpshooters will be too few to warrant the trouble of an additional course, and the expense of moving targets, and they would be such a small percentage of the firing line that their increased skill would add comparatively little to the battle efficiency of the whole line. The number of marksmen would, however, be appreciable, and a man who has made that grade, during a previous practice, soon would be able to profit by the above outlined course. As long as he remains in the same organization and does not fall below a certain per cent. in the course at moving targets, he should not be required to repeat the present marksman's course, and should be allowed to take the sharpshooter's course each year. In order to make the sharpshooter's course more distinctive, slow fire at 1,200 yards should be substituted for rapid fire at 500 yards.

To insure the requisite attention to the course at moving targets, a new class should be added to the general classification and be given a greater value than sharpshooter. Certain percentages in the course at moving targets should be fixed to correspond to the present marksman, first-class, second class, and third class, with the proviso that any man falling below the marksman's percentage would be required to take the regular marksman's course at his next practice.

To make sure that the record is a true indication of the soldier's knowledge and ability, and not of the officer's ability as a coach, all record firing should be so conducted that no coaching would be allowable or possible, after a man took his position at the firing point or during the progress of a skirmish run.

SCOUTS.*

UNDER the original act for the creation of scouts, of February 2, 1901, comprised in Section 36 which follows, it is seen that officers are given provisional appointment for four years, to be continued for the second or subsequent term contingent upon conduct "satisfactory in every respect." Since more than half of the scouts organized under this act have been serving a greater part of the time under the undersigned since the passage of the Constabulary Act of January 30, 1903, ample opportunity has been afforded him for observing the operation of the law and especially the working of the scouts in connection with the latter mentioned act.

Section 36, Act of Congress approved February 2, 1901:

"That when in his opinion the conditions in the Philippine Islands justify such action, the President is authorized to enlist natives of those Islands for service in the Army, to be organized as scouts, with such officers as he shall deem necessary for their proper control, or as troops or as companies, as authorized by this act, for the Regular Army. The President is further authorized, in his discretion, to form companies, organized as are companies of the Regular Army, in squadrons or battalions, with officers and noncommissioned officers corresponding to similar organizations in the cavalry and infantry arms. The total number of enlisted men in said organizations shall not exceed twelve thousand, and the total enlisted force of the line of the Army, together with such native force, shall not exceed at any one time one hundred thousand.

"The majors to command the squadrons and battalions shall be selected by the President from captains of the line of the Regular Army, and while so serving shall have the rank, pay and allowances of the grade of major. The captains of

*Extract from report of Brigadier General Henry T. Allen, chief of constabulary, for the year ending June 30, 1904.

range and thirty seconds for mid-range. Slow fire: minimum of two scores at 200, 300, 400, 500 and 600 yards, no time limit and each shot to be marked. Rapid fire minimum of two scores at moving target at each of the above ranges, the rapid fire to follow immediately after the slow fire at each range.

Record course. Same as minimum instruction course, except that in slow fire a time limit of one minute per shot.

It will now be asked, Who will take this course? The expert riflemen and sharpshooters will be too few to warrant the trouble of an additional course and the expense of moving targets, and they would be such a small percentage of the firing line that their increased skill would add comparatively little to the battle efficiency of the whole line. The number of marksmen would, however, be appreciable, and a man who has made that grade, during a previous practice, soon would be able to profit by the above outlined course. As long as he remains in the same organization and does not fall below a certain per cent. in the course at moving targets, he should not be required to repeat the present marksman's course, and should be allowed to take the sharpshooter's course each year. In order to make the sharpshooter's course more distinctive, slow fire at 1,200 yards should be substituted for rapid fire at 500 yards.

To insure the requisite attention to the course at moving targets, a new class should be added to the general classification and be given a greater value than sharpshooter. Certain percentages in the course at moving targets should be fixed to correspond to the present marksman, first-class, second class, and third class, with the proviso that any man falling below the marksman's percentage would be required to take the regular marksman's course at his next practice.

To make sure that the record is a true indication of the soldier's knowledge and ability, and not of the officer's ability as a coach, all record firing should be so conducted that no coaching would be allowable or possible, after a man took his position at the firing point or during the progress of a skirmish run.

SCOUTS.*

UNDER the original act for the creation of scouts, of February 2, 1901, comprised in Section 36, which follows, it is seen that officers are given provisional appointment for four years, to be continued for the second or subsequent term contingent upon conduct "satisfactory in every respect." Since more than half of the scouts organized under this act have been serving a greater part of the time under the undersigned since the passage of the Constabulary Act of January 30, 1903, ample opportunity has been afforded him for observing the operation of the law and especially the working of the scouts in connection with the latter mentioned act.

Section 36, Act of Congress approved February 2, 1901:

"That when in his opinion the conditions in the Philippine Islands justify such action, the President is authorized to enlist natives of those Islands for service in the Army, to be organized as scouts, with such officers as he shall deem necessary for their proper control, or as troops or as companies, as authorized by this act, for the Regular Army. The President is further authorized, in his discretion, to form companies, organized as are companies of the Regular Army, in squadrons or battalions, with officers and noncommissioned officers corresponding to similar organizations in the cavalry and infantry arms. The total number of enlisted men in said organizations shall not exceed twelve thousand, and the total enlisted force of the line of the Army, together with such native force, shall not exceed at any one time one hundred thousand.

"The majors to command the squadrons and battalions shall be selected by the President from captains of the line of the Regular Army, and while so serving shall have the rank, pay and allowances of the grade of major. The captains of

*Extract from report of Brigadier General Henry T. Allen, chief of constabulary, for the year ending June 30, 1904.

the troops or companies shall be selected by the President from first lieutenants of the line of the Regular Army, and while so serving they shall have the rank, pay and allowances of captain of the arm to which assigned. The squadron and battalion staff officers, the first and second lieutenants of companies, may be selected from the noncommissioned officers or enlisted men of the regular army of not less than two years' service, or from officers or noncommissioned officers or enlisted men serving, or who have served in the Volunteers subsequent to April 21, 1898, and officers of those grades shall be given provisional appointments for periods of four years each, and no such appointments shall be continued for the second or subsequent term unless the officers' conduct shall have been satisfactory in every respect. The pay and allowances of provisional officers of native organizations shall be those authorized for officers of like grades in the Regular Army. The pay, rations and clothing allowances to be authorized for the enlisted men shall be fixed by the Secretary of War, and shall not exceed those authorized for the Regular Army.

"When, in the opinion of the President, natives of the Philippine Islands shall, by virtue of their services and character, show fitness for command, the President is authorized to make provisional appointments to the grades of second and first lieutenants from such natives, who, when so appointed, shall have the pay and allowances to be fixed by the Secretary of War, not exceeding those of corresponding grades of the Regular Army."

Although this act authorizes a strength of 12,000 men, the detail of captains and majors and the formation of battalions, the President has so far seen fit to organize only fifty companies, each of 100 men, with but one first lieutenant and one second lieutenant per company.*

With the exception of the battalion now at the Saint Louis Exposition, commanded by a captain of infantry detailed as major, no steps have been taken towards forming battalions.

No one acquainted with the conditions existing in the Philippines, due to the low average civilization and the consequent readiness with which marauding bands are organized, would suggest a smaller active force than 10,000 men

*This report was written before the late assignment of captains and majors.

for the maintenance of public order. If it is desired to bring the remote tribes of Northern Luzon (Benguet, Lepanto-Bontoc, Abra, Isabela and Nueva Vizcaya) or Mindanao, Paraguan Group, Sulu Group, Batanes and other islands, and I might add the mountain people of every province in the archipelago, into proper relations with the Government, this force must be materially increased. By the very nature of this insular holding, and by virtue of the character of the American Government and nation, these people must be reached, if not now, in the near future.

The enlistment of these semi-civilized people, by which elements of warring rancherias or barrios are often brought into the same organization, has a most wholesome effect in diminishing head hunting and other internecine practices. The education of scouts and constabulary during their terms of enlistment amounts to a practical asset to the Government, and no better or more rapid method of developing such people as referred to is known to the undersigned.

With a view to minimizing insular expenses, efforts have been made to reduce the constabulary; but in spite of this and of the employment of thirty companies of scouts, circumstances have rendered an increase of constabulary to 7,000 men imperative, with a necessary tendency towards further increase. The present force of natives — both kinds — is about sufficient to meet the rapid development of government in these islands.

While the commission recommends, also largely for economic reasons, further employment of scouts instead of increasing the constabulary, it is found that their usefulness is limited by the following:

1. Two district chiefs are not army officers, and cannot, therefore, command scouts.

2. Scout companies are under-officered, having an average of approximately one and one-half officers per company.

3. A deficiency of officers prevents the distribution of scouts, as required by the nature of the service, and the supplying of these troops in remote stations with their fixed ration is unduly difficult.

The scouts, like the constabulary, are primarily intended for insular service, and it would not seem wise on the part of the government to continue increasing either force while parts of the other remained idle.

With few exceptions, scout officers have responded readily and efficiently to the work required of them, and there is no reason why scouts, with a quota of officers permissible under the original act, and with certain changes indicated further on, might not be made equally efficient for insular service in all respects with constabulary. The term *constabulary* gives but an imperfect idea of the duties this force has been performing, and a number of years will elapse before the major portion of its work ceases to be field service in detachments.

In recommending applicants for officers of scouts, it was but natural that army officers should favor old soldiers who had deserved well of the Government, and who were therefore entitled to recognition. This tendency has introduced into the scouts some officers who are already too old for field service, and who are too *conservative* to learn any new language or adapt themselves to conditions their long garrison service has not taught. It is too much to believe that these officers will accomplish all that the Government should justly expect of them. In the future appointments much consideration should be given the element of age.

[1] ACT OF CONGRESS of January 30, 1903. An act to promote the efficiency of the Philippine Constabulary, to establish the rank and pay of its commanding officers, and for other purposes.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That officers of the Army of the United States may be detailed for service as chief and assistant chiefs, the said assistant chiefs not to exceed the number four, of the Philippine Constabulary, and that during the continuance of such details the officer serving as chief shall have the rank, pay and allowances of brigadier general, and the officers serving as assistant chiefs shall have the rank, pay and allowances of colonel: *Provided*, That the difference between the pay and allowances of the brigadier general and colonels, as herein provided, and the pay and allowances of the officers so detailed in the grades from which they are detailed shall be paid out of the Philippine treasury.

"SEC. 2. That any companies of Philippine Scouts ordered to assist the Philippine Constabulary in the maintenance of order in the Philippine Islands may be placed under the command of officers serving as chief or assistant chiefs of the Philippine Constabulary as herein provided: *Provided*, That when the Philippine Scouts shall be ordered to assist the Philippine Constabulary, said scouts shall not at any time be placed under the command of inspectors or other officers of the Constabulary below the grade of assistant chief of Constabulary."

This provides for the control of scouts when ordered to assist the constabulary in the maintenance of peace by putting them under the command of army officers, serving as chief and assistant chiefs of constabulary, with temporary army rank of brigadier general and colonels. The division commander decided that this command, unqualified by law, should be *tactical* by General Order No. 13, February 20, 1903.

"SECTION 2. The Philippine Scouts companies will be ordered to assist the Constabulary under the above Act of Congress only by the Commanding General, Division of the Philippines, and when so ordered they will receive orders only from officers of the Army who are detailed as chief or assistant chiefs of the Constabulary, and will be subject to their orders for tactical purposes only; for administrative purposes Scout companies will remain under control of the division commander."

Under this decision scouts and constabulary have worked together with practically no friction and are at present, in spite of certain infected localities, maintaining a higher degree of order than has ever before obtained in the archipelago. Both division and department commanders are fully carrying out the provisions of this Act and are giving every assistance to a successful coöperation of the two forces. It is easy to see, however, that officers with limited knowledge of field service in general and of Philippine conditions in particular, and more interested in the *finesse* of regulation and construction than in the accomplishment of deeds and measures, could raise numerous quibbles concerning the phrase *tactical purposes*.

If the revenues of the insular government were such as to permit the maintenance of a force necessary to maintain order throughout the territory, and to bring all the semi-civilized and savage tribes within touch and influence of the Government, the principal reason for the maintenance of Federal native troops would be for possible use without the limits of the archipelago.

Assuming what may be accepted as a fact, that the entire native contingent, constabulary and scouts, approximately 12,000, should be used actively in effecting the above, and that that the insular government cannot devote at present more than $2,000,000 (support of 7,000 men) per annum for this work, it becomes highly important to enact such measures as will minimize any friction that might develop and that will simplify the supply and command of this dual force.

The work required of the constabulary since its organization, chiefly *field work by detachments*, has necessarily emphasized its military character until at the present time there is practically no difference between scouts and constabulary in so far as their military duties are considered.

Experience has also taught that it is extremely important to have high grade educated officers in the scouts and constabulary. The officer entering the Army has the advantage of the immediate direction of senior officers, while the officer entering the scouts or constabulary must be expected in the average case to command a separate station where his duties bring him constantly into relation with the civil officials and other people where he serves. Military efficiency, tact, gentility, and sufficient intelligence for a thorough appreciation of laws and regulations cannot ordinarily be found without a liberal degree of education. The standard of constabulary officers has been raised until it is safe to say that it is fully equal to that of scout officers. Scout officers have been chosen from volunteer officers and noncommissioned officers of the Army, chiefly from the latter category; the same applies to constabulary officers, with the difference that a number of the junior ones are graduates of military colleges, colleges and universities.

Native troops can never exercise the moral influence of American troops, and the number of the latter will for a number of years depend upon the quantity of arms put into the hands of Filipinos

There are some who think that scouts and constabulary should be consolidated into one homogeneous force commanded throughout by officers receiving commissions from the federal government and all paid as far as possible by the insular government. The advocates of this state that it would create a more efficient military force, without in any way impairing its civil value, by (1) removing a supposed awkward condition of having the chief and assistant chiefs of constabulary (army officers) command scout companies while their administrative needs are supplied by army staffs, and (2) by eliminating or minimizing possible friction between the various elements of the forces.

Homogeneity would certainly be obtained and civil efficiency might not be sacrificed, but as the class of officers desired must be equally as successful political agents as military agents, there could be a question regarding this. As regards (1), the division commander doubtless finds a certain inconvenience that however has not influenced results. Theoretically, the present practice cannot be well defended, but in this, as in many other cases, theory and practice do not march hand in hand. The very fact that it is unusual, is enough to suggest doubts about it in a conservative body like the Army. As regards (2), the following from a report of Colonel Scott is quoted:

"As to the question of friction between the organizations of the constabulary and scouts, I believe that this question can well be dropped. The officers of these two organizations have been Volunteer officers or enlisted men, working side by side, and many of them are warm personal friends. The amount of friction is comparatively nothing, and in one or two instances where it has arisen it is due generally to some bull-headed Irishman getting his toes or coat-tails tramped on, or feeling that his dignity has not been quite held up to the standard which in his estimation it should have been. The officers eat and sleep together when they are working together; the enlisted men the same.

"I have had for the past year eighteen companies of scouts which have been more or less intimately associated with the constabulary in field and in garrison. While there may have been grumbling which I have not heard, I am convinced that the two organizations could continue indefinitely to work together without anything more than an occasional grumble, the same as would be likely to arise in two companies of the same regiment. I therefore believe that this question might well be ignored."

If the highest authorities should see fit to turn over to the insular government the sum required to maintain the scouts, their supply could be effected through modified existing insular channels, thereby putting this branch under the Civil Governor, both as to supply and command.

The service of native troops has conclusively shown the wisdom of their creation. In the first place, they are efficient and relatively very economical; in the second place, their organization with the training and education they receive materially aids in the development of the country. The experimental stage has passed. Various plans for reorganization might be effected that would be better than the present, but they have not been tried, and they must therefore remain conjectures. The present is the result of evolution, and is known. After carefully considering all the circumstances, I believe it advisable to maintain the present double system (scouts and constabulary) with such modifications as actual conditions have shown to be necessary and beneficial.

There are few persons who have had opportunity of carefully studying the situation that do not fully recognize the importance of placing whatever force may be necessary for the maintenance of peace and order immediately under the orders of the Chief Executive of these Islands. The act of January, 1903, practically effects this; under it, the policy of utilizing white troops solely as a reserve and for their moral effect and the system of concentrating them into larger permanent garrisons may receive their fullest development.

Under the scout organic act, quoted above, a first lieutenant of scouts has ended his career so far as promotion is concerned. The framers of the law doubtless recognize this as a military anomaly and must have contemplated a change when scouts should have proved by experience the value and importance of their existence. The writer is far from believing that all first lieutenants of scouts are worthy of being made captains, nor would it be for the best interests of the scout organization to fail to profit by the provision of the act detailing first lieutenants of the line as captains of scouts. Without such infusion of new blood, the standard of the organization would slowly drop, there would eventuate a tropical level. What has been said with regard to lieutenants and captains likewise applies to captains and majors.

The importance of having scout companies formed into battalions impresses itself continually with more force. Detached as they now are at one company posts and less, even though not widely separated in distance, the question of drill, discipline, and a proper supervision of their duties and necessities leaves much to be desired. Under present conditions there are too few officers available for this work, and these companies cannot receive the attention they should have.

To say, however, that scouts deteriorate operating under the provisions of the act of January, 1903, is equivalent to saying that an army deteriorates in war, in the very act for which it was created. It is true that the standard of garrison efficiency and drill skill is lowered in each case, yet it does not become a soldier to bemoan the inconveniences and disadvantages of war or of any other duty that may be the supreme goal of his existence.

Good active battalion commanders would make the work of scouts far more effective and would simplify their command and administration. They would also help maintain garrison efficiency. The importance of organizing companies into battalions under their present duties and separated stations is more imperative than if they were concentrated in posts. A proper inspection of scouts could then be made by the battalion commanders and their administrative needs be

better effected by officers of the regular supply departments, either as at present or by the detail of these officers with the civil government.

The following is from Colonel Scott's report, and shows that he does not agree with some concerning the deterioration of scouts with constabulary:

"I am fully prepared to show that the efficiency of scout organizations in the first district has been materially improved by the services which they have been called upon to perform since February, 1903, with the civil government, in assisting in maintaining the peace, in conjunction with the constabulary. Officers have become proficient in the multitudinous duties which have devolved upon them through the best of schools, experience.

"The men have learned to be self-reliant and capable of caring for themselves in the field. The noncommissioned officers have learned the duties of scouting, making arrests and handling prisoners, while keeping within the confines of the civil laws.

"Both officers and men are in good physical condition and hardened by field service. The benefits of this were brought especially to my notice last winter, while operating in the field in Ilocos Sur, where scout organizations were thrown together which had, and had not, been performing this duty."

In matters of courtesy and command, analogous relations should exist between scouts and constabulary to those now existing by law between Regulars and Volunteers. When the nature of the service, the equality as to intellectual, social and professional attainments of the officers, and the identity of the enlisted strength are considered, the justice of this is as apparent as the ensuing results would be real. This is a highly important matter, and should receive early consideration.

If the enlisted men of scouts while serving in the Philippines be made amenable to the courts of first instance for major offenses, a long step in business procedure will be effected and it is so recommended. I know of but one objection to this measure that could be advanced, namely,

custom of the service, which in my opinion has no value as an argument in this particular case.

It is not believed that the present tendency towards maintaining scouts, both as regards quantity and kind of supplies, on a footing with American soldiers regardless of the tremendous difference of conditions, can be justified from any point of view, either by Americans or impartial Filipinos. It is based on the principle that actuated the officer who insisted that laborers employed under him should have one peso a day when an ample number was available at half a peso.

The present ration system renders the scouts less mobile than the constabulary. It should be made more flexible by the introduction of a money allowance, in part or whole, for expeditionary work. This would be more economical, and would largely relieve a detachment from being tied down to a train of cargadores whenever it takes to the field.

The undersigned believes that the present force of scouts and constabulary is sufficient to fully meet the requirements of the insular government, and that a more ample coördination of their duties under the Civil Governor can be obtained in a large measure under existing law by making effective the following, which he urgently recommends:

1. The appointment of three officers for each company; half of the captaincies to be filled by promotion of scout officers* and half by detail from the Army.

2. The organization of battalions and the appointment of battalion commanders at the rate of four from the line of the Army and one from scout officers.

3. That Section 9, Act 175, of the Civil Commission be made applicable to scout organizations serving under the Civil Governor.

4. That enlisted men of scout organizations serving in the Philippines be made amenable for offenses not recognizable by summary courts to courts of first instance.

5. That in matters of courtesy and command, anologous relations be established between scouts serving with the civil

* What system is to determine the scout officer that shall be promoted? Selection? And if by selection, who is to be the power?—[EDITOR.]

government and constabulary as exist by law between Regulars and Volunteers of the Army.

6. That the scout ration be made more flexible by the introduction of a money allowance.

The undersigned desires to give public expression to the valuable services which the body of scouts has rendered the insular government, and to the willing and effective way in which both officers and men have responded to the arduous and complex duties imposed upon them. Above all, special credit is due Brigadier General George M. Randall, commanding Department of Luzon, where the majority of the scouts have been serving, for his full and complete coöperation with the requirements of the insular government, and for his strict compliance with the letter and spirit of Act of Congress, approved February 2, 1901.

VISUAL DRILL SIGNALS.

By Major A. P. BLOCKSOM, First Cavalry.

REGIMENTAL and squadron evolutions, including the practice of attack and defense in field maneuvers, are now more frequent than when present drill regulations were written. When using the voice or trumpet, commanding officers of regiments, squadrons and even large troops often have great difficulty in making themselves understood.

During movements at the trot or gallop the noise is so great that the voice of the average commander cannot be heard by all, and the musical ear of many of his subordinates is not keen enough to catch trumpet signals in time to avoid confusion and delay. As a rule our officers and non-commissioned officers do not spend sufficient time in the study of military music.

Even if he understands music fairly well, a man's eye is much quicker than his ear, especially in time of stress. A certain visual signal will at once convey information that a movement is to be toward the right; should the trumpet be used instead, valuable time may be lost before determining that the signal ends on the ascending chord.

Subordinates may often advantageously supplement the voice or trumpet with the corresponding visual signal.

It may be inexpedient to use either voice or trumpet, as when it is necessary to dismount, form skirmish line and attack a near by unsuspecting enemy on ground unsuited to mounted action.

Whatever his methods, the commanding officer places himself whenever possible in position to be seen, especially by organization leaders; visual signals are therefore generally

practicable. It seems to me they should be oftener used. They are unmistakable and easy to learn for the more important movements. By using them in conjunction with others a live cavalry commander will turn troops into shape in quicker time. The preceding remarks apply with special force to volunteer cavalry.

It is proposed that "Signals" pages 8 and 9, Cavalry Drill Regulations, be changed to read something like this:

VISUAL SIGNALS

Saber signals should be often used, alone and in conjunction with the voice or trumpet. A whistle blast to fix attention may precede signals.

When practicable the instructor may indicate a particular organization as the base of a movement by turning to and pointing saber at it: in signaling movements themselves he should ordinarily face as troops face.

When necessary to complete understanding of signals, the instructor takes indicated gait and proper direction before coming to port.

All preparatory signals are made from port: the return to port from preparatory signal is the signal of execution except in case of *Halt*.

When several signals are combined a distinct pause is made after each, but saber is not brought to port until last signal is completed.

After *Attention* signals are to be expected as long as instructor holds saber at port; the return to carry is indication that no further signals are to be expected until *Attention* is again signaled.

Attention.—Raise arm vertically to full extent, saber in prolongation, and describe small horizontal circles with the point.

Platoons.—Carry hand to right shoulder, saber pointing to left; raise arm vertically to full extent, keeping saber horizontal.

Troops.—Same as *Platoons*, except that arm is raised *twice* from first position to second.

Squadrons.—Same as *Platoons*, except that arm is raised *three times* from first position to second.

Forward.—Execute first and second motions of *Front cut.*

Right or *Left Oblique.*—Same as *Forward*, except that second motion is forty-five degrees or more to the *right* or *left* front.

Guide right or *left.*—Extend arm horizontally to *right* or *left*, saber vertical.

Halt.—Raise arm vertically to full extent, saber in prolongation; instructor halts, keeping arm and saber up until troops are halted.

Walk.—Carry hand to right shoulder, saber vertical; raise arm vertically to full extent and then lower to previous position, keeping saber vertical.

Trot.—Same as *Walk*, except that arm is raised and lowered *twice.*

Gallop.—Same as *Walk*, except that arm is raised and lowered *three times.*

Charge.—Take position *Charge saber.*

Fours right or *By the right flank.*—Execute first and second motions of *Right point.*

Fours left or *By the left flank.*—Execute first and second motions of *Left point.*

Fours right about or *left about* or *To the rear.*—Execute first and second motions of *Rear point.*

To change direction right or *left.*—Raise arm until horizontal, arm and saber pointing toward marching flank: carry arm and saber horizontally to the front.

Right or *Left front into line.*—Execute first and second motions of *Right* or *Left moulinet.*

As skirmishers.—Wave arm and saber rapidly as nearly as possible in a horizontal plane, from right to left and from left to right, repeating both motions.

Rally.—Extend arm vertically and rapidly circle saber horizontally around head.

To fight on foot, action right or *left.*—Execute first and second motions of *Right* or *Left point against infantry.*

The carbine may be substituted for the saber; or the arm and hand only may be used, crooking the elbow when necessary to make forearm represent saber.

Too many signals may be given in this scheme, but I believe the line of improvement is demonstrated.

Reprints and Translations.

RAIDS DURING THE WAR OF SECESSION.

By Captain GATELET, Instructor at the Cavalry School at Saumur.
Translated by Captain FRANK PARKER, Fifteenth Cavalry.

THIS course of military history applied to the cavalry would be incomplete if we left in the shadow the exploits accomplished by the American cavalry during the War of Secession, and imitated, not without success, by the Russian cavalry during the Russo-Turkish War of 1877–1878.

The Americans are the first to give an example of "long distance exploration by cavalry," and to place in honor a method of action unused up to that time, *i. e.*, the raid, which consisted in making with an independent body of cavalry a turning movement upon a vast radius in the territory occupied by the enemy.

It is the raids of the American cavalry which we are going to study. We will then see what profit the Russians drew therefrom for their cavalry in 1877–1878.

RAIDS OF THE AMERICAN CAVALRY.

The raid was the most usual mode of action of the American cavalry, which is easily understood, considering the particular character of this cavalry and the especial conditions of the war in which it was engaged.

With their adventurous spirit, their audacity which stopped at nothing, and especially their initiative, the American cavalrymen should naturally have turned, by preference.

towards the great enterprises in the rear of the enemy's armies, and betaken themselves afar, separated from all support, without troubling themselves to preserve their own communications.

At the beginning of the war, everything incited the Southern cavalry—the only organized cavalry at that time—to this kind of operation; its enlisted force, its chief, the country, its adversary and its adversary's method of supply.

Formed of volunteers, rich planters of the great farms, horsemen by taste and habit, riding continually, the roads being often unfit for carriages and the horse being their sole means of locomotion, the Southern cavalry constituted an exceptional body for reconnaissance and partisan work. It had at its head officers who, graduated from West Point, had acquired in the strife along the frontiers with the Indians, the love of long, bold marches, familiarity with great distances, and calmness in danger.

Its generals were, in the first rank, Stuart, the accomplished type of the cavalry general—worthy to figure side by side with the great cavalry leaders of the First Empire—whose activity, ardor and tenacity never flagged until his death in 1864. Morgan and Forest, redoubtable partisan chiefs, whose sangfroid, quickness of eye, audacity, and with respect to Forest, a little, also, of cruelty and of the bandit, have remained legendary in America.

Admirably seconded by a most efficient horse artillery, composed of volunteers of all nationalities, of a discipline and intrepidity of high repute, this cavalry was able to create for itself much independence; and, perhaps, abused its freedom of action.

The adversary with whom it had to deal had neither organized force nor serious cavalry to oppose it. It was, therefore, sure to produce a considerable moral effect, by suddenly appearing upon the enemy's communications.

Finally, the country in which it operated is cut up by large and deep rivers, covered with forests, with marshes, and vast farms, where the badly kept roads become miry with the least rainfall; and limited, therefore, in its actions upon the front, the American cavalry had to seek space

upon the flanks or in rear of the enemy. Moreover, it was necessary to bring provisions from the rear, utilizing the water courses, the railroads, and, as soon as these methods were left behind, convoys following the armies.

Hence, in this war the importance of the railroads and convoys, and, in consequence, the interest there was in maneuvering upon the lines of communication of the enemy, to destroy his railroads or to seize his convoys.

Under such conditions one easily conceives the fondness for raids which manifested itself from the outset of the war amongst the Southern cavalry.

The material results obtained in this way by this cavalry, and the moral effect produced, were such that in their turn the Federals perceived the necessity of organizing a numerous cavalry; but this Federal cavalry was for a long time mediocre, because it had neither good enlisted force nor leaders, and it really deserved the name of cavalry only toward the end of the war. In its turn, likewise, the Federal cavalry undertook numerous raids upon the communications of its adversary.

Thus multiplied, these expeditions lost their importance; conceived often without a definite object, they were considered finally, according to the expression of the American press, as an "unhealthy exuberance."

Thereafter they deviated from their original character, became only gigantic horseback riders across immense spaces, having nothing to do with the object to be attained, depriving the armies of a cavalry which would have been far more useful as scouts and advance parties, and as a factor in the combat, and causing a consumption of horses calculated at more than 300,000 for the whole war.

For the Army of the Potomac alone (the Northeast Army) for an effective of from 10,000 to 14,000 men, there were sent in six months more than 35,000 horses; that is, more than three horses to each cavalryman. However, this incessant activity of the cavalry of the two parties rendered great service to the armies, and it may be affirmed that it contributed to diminish to a great extent the duration of the war.

We will not speak of the raids undertaken by the irregular cavalry of the South, under Morgan and Forest; these are operations of absolutely independent partisans, analogous to those of the Cossacks in the last campaigns of the First Empire. Sometimes they obtained important results; sometimes they were less fortunate; but they were always remarkable for the amount of "cavalry" qualities displayed.

We will likewise pass in silence over the raids of the Federal cavalry, executed by different chiefs, such as Wilson, Grierson, Sheridan; all prove unquestionably the prodigious activity and ardor of the Union cavalry in the last year of the war.

Carter makes during nine days forty-four miles a day, in mountainous country and in a bad season of the year. Grierson in 1863 makes thirty miles a day for sixteen days, to turn two Southern armies. Sheridan in 1864 sets out with 10,000 horses, and is gone thirty-six days; he returns with 6,000 horses exhausted and incapable of any further service.

Certainly all these raids present instruction by reason even of the mistakes which were committed in them, but we have not sufficient time to examine them, and we will limit ourselves to a study of these raids of the regular cavalry of the South—a cavalry solidly organized, as we have seen under the command of Stuart—acting as an instrument of exploration in connection with the Army of Northern Virginia, commanded by General Lee, and upon a theatre of operations which resembles greatly those upon which our armies would maneuver.

We will state likewise that at our epoch in history when the European cavalry, forgetting the great lessons of the cavalry of the First Empire, lose from sight completely the idea of the method of employment of cavalry under the First Empire, as well in campaign as on the field of battle, the American cavalry, hastily formed of heterogeneous material, without tradition or military spirit, finds in its good common sense, in its violent desire to act, and in the genius of its race, the true method of operating and of making itself useful.

And truly it is to be regretted that the lessons of this war might not have crossed the ocean in time to recall to our cavalry at the beginning of the campaign of 1870, the glorious rôle that it had played in the wars of the Empire, and to withdraw it from the mistaken paths of inaction in which it had remained complacently, and in which it had wandered further and further since 1815.

Before approaching the study of the raids, properly so-called, we will give some indications concerning the methods of procedure used by Stuart during his expeditions.

STUART'S METHODS OF PROCEDURE IN HIS RAIDS.

One must not imagine that the raids accomplished by the cavalry of Stuart were undertaken at random; they were, on the contrary, carefully prepared by scouts, men of determination chosen from among the most intelligent and quick-witted, who filled the rôle of our officer's reconnaissance. They were good riders, thoroughly fitted by reason of their former habits for this dangerous service. Taking advantage of the night to pass the advanced posts, the scouts once in contact with the enemy, spied upon all his movements, hiding during the day in the woods or with inhabitants devoted to the Southern cause. They remained always in uniform so as not to be treated as spies in case of arrest.

When Stuart had the time, he sent them forward several days beforehand: if not, they spread out at relatively short distances from the main body, itself in the vicinity of the enemy. Stuart received their information with great rapidity by means of relays arranged previously.

In general, the scouts did not communicate directly with the commander-in-chief, Lee. The latter, appreciating that a reconnaissance can only discover, since it has neither time nor the means for exploring, considered that their information would be of but little value to him, but that it was, on the contrary, indispensable to the commander of the cavalry. The latter was thus in a position to pursue his explorations thoroughly, and to keep the General-in-Chief informed in a more profitable manner.

It must be added that the scouts, speaking the same language, and having the same customs as the adversary,

aided moreover by the inhabitants of the country, had much less difficulty in acting than our patrols and spies would have had.

During the march, Stuart covered himself with an advance-guard of about thirty men at a distance of twelve to fifteen hundred metres from the main body, and by numerous patrols upon the flanks and in rear. Daily marches of from thirty to thirty-six miles, for several succeeding days, were not unusual. At a distance from the enemy they were executed as follows: Six miles at walk and trot, men mounted, say one hour and a half; two miles at walk, men dismounted and leading horses, say one hour. And so on, until the end of the march; which gives an average of four and a quarter miles an hour, the horses being mounted one hour out of two. This alternation, on horseback and on foot, relieved the horses and kept the men's legs in good condition; the men were dressed and armed appropriately for this style of marching.

For arms they had the saber, the carbine, and the revolver; the horses brought with them at the beginning of the war were excellent, and carried a very light saddle pack, which became heavier for an expedition of several days; for as large a quantity of provisions as possible was carried upon the saddle.

As to methods of procedure in the combat, Stuart used largely his marvelous artillery, composed of volunteers of all nationalities; his normal mode of attack was the charge at the gallop, saber in hand; nevertheless, he used frequently dismounted formations, which has caused certain authors to say that his cavalry was only mounted infantry. In reality, if he acted thus, it is because in his operations upon the enemy's communications he had especially to destroy the railroads, take villages, occupy bridges, capture convoys, rather than to rush upon the enemy in open country; and because he had at his disposal, one must remember, farmers very skillful and adroit in the handling of firearms. Every time he had the opportunity to do so, he charged. This being established, I will investigate, among the several raids, two as remarkable as any undertaken by Stuart, in the

course of the year 1862 and 1863; the first and the last, that is to say. First, the raid in Virginia (June, 1862), in the course of which Stuart makes the complete circuit of the army of McClellan. Second, the raid into Pennsylvania (June 1863) before the battle of Gettysburg.

I have purposely chosen these two operations, because in the first Stuart has against him a mediocre cavalry, very inferior to his own, noway hardened to service; in the second, on the contrary, he finds himself in the presence of a cavalry taught in the school of experience, become enterprising in its turn, and very well organized. You will be able to judge thus how much more difficult under these conditions becomes a movement upon the communications of the adversary.

RAID IN VIRGINIA (JUNE, 1862).

Let us take the situation in Virginia at the beginning of June, 1862. The Confederate Army, called the Army of Northern Virginia, 70,000 strong, is assembled at Richmond under the command of Lee. The advanced posts extend from the railway (Richmond-Hanover Station) to the James River. A detachment of 6,000 men, commanded by Jackson, up to that time in the valley of Virginia, more to the northwest, has been recalled and advances by Gordonsville upon Richmond.

In front of Lee, six miles further to the north, is the Northern Army of 220,000 men, under the command of McClellan, the advanced posts of which stretch from Meadow Bridge to White Oak Swamp. After the battle of Seven Pines, fought previously, the contact with the Federals has been lost, and Lee knows simply that their line of supply is without doubt the White House Railroad, and that their main body must have retreated behind the Chickahominy.

The Southern General then orders Stuart to execute a movement upon the rear of the Federal Army, with the object of reconnoitering its positions and its lines of communications, so as to be able to locate its further operations; on the way, if it finds the opportunity, the cavalry must destroy convoys and gather grain and cattle.

Upon receipt of this order, Stuart commands a column of 1,200 cavalry, which he forms into two regiments (commanded respectively by W. H. F. Lee and Fitzhugh Lee), adds to it a section of horse artillery, and leaving the rest of his division for the service of security of Lee's army, assembled this detachment on the morning of the 12th of June beyond the James River, upon the Richmond-Fredericksburg Railroad.

His force assembled, he sends scouts to reconnoiter upon his right, with the object of discovering the enemy, and then commences his march toward the north (although the Federals are to the east), appearing thus to be on his way to join Jackson, who is coming from that direction; the movement toward the north is made so as to mislead the numerous spies of the neighborhood.

After a march of 216 miles, he bivouacs at South Anna Bridge; there he awaits the result of his reconnaissances. The scouts arrive in the night and inform him that, in following the Pamunkey, the first troops that he will probably encounter are at Old Church.

The next day, at daybreak, Stuart starts forward upon the Old Church road; up to this time, he has kept secret the object of the operation, being firmly convinced that secrecy is the essential condition of success, and that only an enemy surprised can be well reconnoitered; he then informs his subordinates of his plan.

Arrived at Hanover Court House, he comes upon one hundred and fifty Federal cavalry, who retreat in haste, without resistance, in the direction of Mechanicsville; having no time to pursue them, Stuart continues his march, capturing by surprise on the way several hostile vedette posts, and, a little before reaching the Mattapony, falls upon a regiment of Northern cavalry, which, being charged by Stuart's leading troop, does not hold, but retreats, leaving the passage of the river open.

This passage is effected under the protection of the artillery, and of a half squadron dismounted; then beyond Old Church, Stuart overtakes two of the enemy's squadrons which he causes to be charged and dispersed by his leading

squadron; in pursuit of these squadrons he penetrates Old Church, where he surprises a hostile camp, destroys a quantity of supplies and makes numerous prisoners. Now he is upon the rear of the Federal Army, whose formations stretch out before him; he has many prisoners, an important factor in all explorations; his mission, therefore, is accomplished.

If he has succeeded so well, it is because he has had to deal only with a cavalry very much inferior both in numbers and in quality to his own; he has had not only numerical but moral superiority over the enemy's cavalry, and his sudden appearance in the valley of the Pamunkey has caused terror in the Federal camp.

Now was the time to send information to General Lee (and we will note here, in passing, a case where the use of carrier pigeons would obviously be useful), but judging that this information would not arrive, considering the difficulties of the return for the couriers, Stuart preferred to take it back himself.

He considers the return by the same route too dangerous, as he strongly suspects that all the passages will be barred, for his position is already known to the enemy; he, therefore, decides to finish the circuit of the Federal Army, being persuaded that the enemy, not supposing him capable of such rashness, will take no precaution on the eastern side.

Stuart, like Morgan, had, as his regular plan of action, a sudden appearance, after a rapid and bold march in a direction considered as improbable: this was one of the methods of the American leaders which rarely failed.

Consequently, after having questioned openly the inhabitants on the road to Hanover Court House, he moves rapidly upon Tunstall Station, detaches, while on the march, two squadrons to his left upon the Pamunkey to burn the provision transports which he correctly judged to be upon the river; these squadrons, in fact, destroy several boat loads of grain, and make a good capture of horses. He throws his advance-guard forward to Tunstall Station to seize the telegraph and stores which are indicated in this place.

He himself, with the main body, runs into a convoy, which he seizes, surprises at Tunstall Station a post of

twenty infantry, and salutes with a volley of musketry a passing train full of Federal troops. The engineer is killed and the train, running at full speed without control, causes a serious accident in the station at White House. At night the bridge of the railroad is destroyed, the convoy burned, and the detachment, continuing its march, stops for only three hours' rest.

The next day at dawn it starts again and reaches the Chickahominy, which it finds swollen by the rains and not fordable. Stuart decides to build a hastily improvised bridge. A foot passage is improvised; the horses swim across; with the remains of an old bridge, a bridge for the artillery is built in three hours.

In the interval, Stuart has sent news to General Lee. Stuart is the last one to pass over to the right bank, and, all further danger being at an end, he marches upon Richmond, where he and his detachment arrive without hindrance.

The results of this circuit were considerable. Stuart brought back 165 prisoners, and 265 horses, having only lost one wagon, whose pole was broken; the enemy had had to detach from his battle corps from 10,000 to 15,000 men to guard his communications; several million francs' worth of supplies were destroyed, the railroad which served the enemy as its principal source of supply was put out of service, terror was thrown into the Federal camp, and finally, the principal point, General Lee was perfectly informed concerning the enemy's positions.

Thus informed, Lee decides to turn the right wing of the Federals and delivers a battle which results in the retreat of McClellan's army. In three days, Stuart had covered ninety-six miles, without the loss of a single man or a single horse. We are, therefore, a long way from the legend which represents all the American raids as having produced a frightful hecatomb of horses.

RAID INTO PENNSYLVANIA (JUNE, 1863).

On the 20th of June, 1863, the situation of the forces in Virginia is as follows: The Federal Army, commanded by Hooker, and previously upon the north bank of the Rappahannock, has been for six days in retreat toward the north to cover the capital, Washington.

The Southern Army, still the Army of Northern Virginia, under Lee, consisting of three corps, is about to descend the valley of the Shenandoah, that is, upon the Federal left, with the intention of getting into Pennsylvania, where it can find a more easy subsistence; one corps has just crossed the Potomac at Harper's Ferry and entered Maryland, preceded by a brigade of cavalry; the other two corps are still in the valley of the Shenandoah, protected on their right by Stuart's cavalry, stationed east of the Blue Ridge.

The two corps which form the main body of the Southern Army are to advance in two columns by Gettysburg and Carlisle respectively, to reach the Susquehanna.

Stuart proposes then to General Lee to undertake with his cavalry a new expedition in rear of the enemy, in order to delay his passage upon the right bank of the Potomac, to cut him off from Washington, and, after having caused him as much damage as possible, to rejoin the army in Pennsylvania by crossing Maryland.

General Lee accedes, and Stuart, who has five brigades at his disposal, leaves two to the east of the Blue Ridge to continue the protection of the right flank of the Southern Army during his movement, and unites at Salem the other three, as well as six pieces of artillery and their caissons; that is, in all 5,000 men, for whom he has three days' rations prepared. On the morning of the 25th of June he starts in the direction of Haymarket, after having, as was his custom, taken a false direction toward the north to mislead spies, and after having detached a reconnaissance in the direction of Dranesville, for the purpose of finding a passage across the Potomac.

Upon approaching Haymarket he encounters his first unforeseen difficulty, a corps of the Federal Army on the march to the northwest. Choosing a good position upon the flank,

Stuart cannonades the enemy's column, which, taken by surprise, deploys. Then quitting the fight, he moves away rapidly upon a detour to the south, and as his horses have very little to eat, bivouacs in the afternoon so as to pasture them while his scouts go out upon reconnaissance.

In the night information arrives that Centreville and all the country to the north are occupied by the enemy. Stuart informs Lee at once, and enlightens him concerning the movement of the Federal corps which he had cannonaded that day.

Stuart's plan now seems frustrated, for Hooker has just crossed the Potomac at Edward's Ferry with the main body of his army, and has decided to follow the Southern Army into Maryland.

Although Stuart at this moment could have no knowledge of this movement, the presence of the enemy at Centreville and more to the north, must have caused him to consider his former plan, if not impossible, at least exceedingly dangerous, for he would now be compelled to make a great detour to the east, and would not perhaps succeed in reaching Lee in time; the two armies would meet before his arrival.

Stuart, however, clings to his purpose, and not being able to get through toward the northwest of Centreville, as he had expected, he turns to the east, and on the evening of the 26th of June, he bivouacs upon the banks of the Occoquan.

On the morrow, he reaches Fairfax, where he finds the traces of the Federals who have quitted that place the day before; surprises in this neighborhood a regiment of cavalry, which he charges, and from which he captures 200 horses; destroys the railroad from Washington which connected this city with the Northern Army; intercepts several dispatches by aid of his telegraphers; sends false news to the Federal Staff and then cuts the wires. Then continuing his route upon the tracks of the retreating force, he enters Dranesville which a body of the enemy has just abandoned.

Feeling sure that Hooker's army has crossed the Potomac and has gotten ahead of him, he wishes to pass it, by getting round its right flank, by hook or crook, and to join Lee in the direction of York, at Gettysburg. Consequently he

passes the Potomac in the night, by an unguarded ford, but only after great trouble; he has the caissons emptied, and divides the ammunition amongst his men; he then has the pieces and caissons dragged, submerged, across the river, swollen by the rains.

Once in Maryland, Stuart cuts the lateral canal of the Potomac, which served as a principal highway for the provision trains of the Federals, and on the 28th, after a necessary rest, marches upon Rockville; en route, he captures a few prisoners and disperses a few small detachments near Rockville. Being informed that an important convoy coming from Washington is about to reach this locality, he pushes the enemy's advance-guard to one side, throws into confusion the convoy, which he captures intact, and pursues the escort up to the entrance of Washington, where, for an instant, he is tempted to enter. But judging this too risky, for it will cost him a further delay, he prefers to continue his route toward the north without interruption, so as to destroy at Sykesville the Baltimore & Ohio Railroad, which had become the principal means of transportation for the supplies of Hooker's army since its entrance into Maryland.

This destruction took place in the night. On the 29th of June, learning that the Federal Army is advancing parallel with his movements towards the north, Stuart, with a good lead, resumes his march in the afternoon toward Westminister, with the object of reaching Gettysburg and reporting to Lee. At Westminister the head of his column is stopped by a Federal squadron; he dismounts his men, takes the village, and the division passes the night on this spot, where, for the first time since their departure, they find good forage.

These five days of incessant marching, with short rest and short rations, begin to dull the energy of his command, all the more since the ammunition is giving out, and it must drag after it 400 prisoners and 200 captured wagons, which must be kept. On the 30th, Stuart takes the Hanover road, and in the vicinity of this city, perceives a division of the enemy's cavalry (commanded by General Kilpatrick) en route from Hanover to York. In fact Kilpatrick, warned for sev-

eral days past of Stuart's movements, had taken good care not to inconvenience him, preferring to allow the Confederates to load themselves with a booty which would delay them, and himself to maneuver between Stuart's force and Lee's army, so as to separate them as long as possible.

In Stuart's rude school the Federal cavalry had improved much, and now constituted a numerous body, active and solidly organized, capable of thwarting the best combined plans of its adversary; so this raid in Maryland can be compared to an operation of the same nature which might be attempted upon an European theatre of war.

At the moment when Kilpatrick's division, uncovered upon the right flank, is surprised on the trip from Hanover, Stuart's command is to the south of the city in the following order: In the advance-guard, one brigade; behind, the convoy and prisoners; In the rear-guard, one brigade. The third brigade in echelon on the right side.

Boldly profiting by the surprise, Stuart charges with his leading brigade the rear of the enemy, but Kilpatrick, wheeling about, comes up with his whole division, and in his turn, obliges the attacking brigade to retreat. During this time Stuart places the artillery upon a height to the north, supports it with two squadrons on foot, and stops short the enemy's offensive, thus giving to his flank brigade the time to appear, and to his convoy the time to escape by the Jefferson road.

Then, quitting a combat henceforth without object, Stuart regains his convoy; the enemy on his side, satisfied with having prevented the Southern cavalry from taking the Gettysburg road, and with seeing them withdraw to the east, stopped for rest. After this alarm, Stuart foresees that he will never succeed in joining Lee, except by distancing the Northern cavalry; to do this, he must demand of his men an extraordinary effort, an effort that only such men as his can make, in order to pass before day between the enemy and that impassable obstacle, the Susquehanna. He moves then immediately upon York, where he hopes, after marching all night, to join Lee's advance-guard.

This night march is very trying; entire regiments sway in their saddles from lack of sleep; at length, on the 1st of July, in the morning, the column reaches Dover, without having met any friendly party.

At Dover Stuart learns that the Confederates have left that city the day before, moving upon Shippenberg, the concentration point for Lee's army; he continues his route in the day upon Carlisle, and throws his last shell into the city, which refuses to receive him. The situation becomes more and more serious; the rations have given out, as well as the ammunition, and it has been necessary, in order to move more quickly, to abandon the convoys; Stuart commences to lose all hope, when in the night, he receives a despatch from Lee to whom he had sent a message from Dover; this despatch tells him that the army is at Gettysburg and that a battle is imminent. Stuart, accordingly, with his three brigades moves to Gettysburg. Kilpatrick endeavors to cut him off, but having lost time at Hanover, he arrives too late and finds himself stopped by the brigade of the advance-guard, which occupies, dismounted, the crossroad at Hunterstown.

Such is the raid into Pennsylvania, in which Stuart truly exceeded the limit of what may be demanded of a body of cavalry, even though it be as fit as was his command. A recapitulation of the marches made during these seven days gives us:

June 25th, from Salem to Haymarket, twenty-four miles, and a fight at Haymarket against a Federal corps;

June 26th, from Haymarket to the Occoquan, twenty-four miles;

June 27th, from the Occoquan to the Potomac, thirty miles and a fight at Fairfax;

June 28th, from the Potomac to the Baltimore & Ohio Railroad, and destruction of the railroad;

June 29th, from the Baltimore & Ohio Railroad to Westminister, thirty-six miles, and fight at Westminister;

June 30th, from Westminister to Dover, sixty miles, and fight at Hanover; this march lasts all day and all night

without rest, and is resumed during the day of the 1st of July;

July 1st, from Dover to Gettysburg, by way of Carlisle, fifty-four miles.

That is, in seven days, 246 miles and five fights, during which the horses are badly fed and the men have little or no sleep. Therefore it is not surprising that this raid caused great losses to the Southern cavalry. Stuart acknowledges having two thousand horses unfit for service upon his return; and, a fact of still graver importance, he had furnished no information to Lee, who, hampered by the absence of his best cavalry, had not learned until two days after, of the passage of the Federal Army to the left bank of the Potomac, and had had just time to concentrate his scattered forces at Gettysburg, where he met the shock of the enemy.

As to the best results acquired: First, destruction of the two railroads, and of the canal connecting Washington, the Federal base of operations, with the Federal Army; terror inspired up to the Federal capital, and upon the communications of the enemy, who had been obliged to detach from its fighting force a considerable part of his cavalry, and an entire army corps to protect his rear, and to cut off the Southern cavalry. These results do not compensate for Stuart's losses nor the inconveniences to the Southern Army resulting from his absence. However, if this raid missed its principal purpose, it offers a rare example of the efforts that a trainer of Stuart's caliber can obtain from his cavalry.

At the time when he executed such bold maneuvers, Stuart was but twenty-nine years old; unfortunately for the Southern cause, he was killed the following year, while pursuing a detachment of Sheridan's cavalry in the vicinity of Richmond.

HOW JAPAN MAKES HER ARMY OFFICER.*

By Captain C. BADHAM-THORNHILL, R. G. A.

As the Japanese army is now so much before the world, it may be of interest to enter briefly into the method by which she trains her officers. Anybody who has followed the present war closely cannot but have observed the very important part the "officer," especially those of junior rank, have played in helping to win victory for their side, though opposed to such a powerful enemy. I suppose there is no other country in the world where the officer is so much looked up to by his men as in the Japanese army, and on his side he certainly tries to deserve it as far as within him lies. Some years ago, when on leave to Japan from China, I renewed my acquaintance with some officers whom I had met there, and I remember then being struck by the complete harmony which seemed to exist between officers and men, and the thoroughness of their methods down to the smallest detail.

The army is open to anybody who wishes to enter it, provided he can pass the necessary examination, but he must have the written permission of the officer commanding the regiment he afterwards wishes to enter as an "officer candidate." There are two ways open to the candidate who wishes to enter the army:

(*a*) Through the several military schools.

(*b*) By graduating from a middle school recognized by the government.

The successive steps in the first case are as follows:

(*a*) By competitive examination he enters a lower military school, of which there are five, one at each of the following places: Sendai, Hiroshima, Nagoya, Osaka and Kumamoto, whichever suits him best. Here he spends two years mugging up those subjects in which he is examined before he can enter the Central Military Lower School in Tokio.

* Reprinted from the *Royal Artillery Institution*.

At these schools, although he is not taught any military subjects, the discipline and training he receives is, I am told, very useful to him in his after career.

(*b*) If successful, he enters the Central Military School, where the course is also two years with an examination at the end of each.

Here the military education really begins, though he is not taught tactics, military law, or fortification, until he enters the Military School. Amongst the theoretical subjects he is instructed in, great stress is laid on the importance of military drawing and foreign languages, and here I was surprised to find that English was not one of them, not being considered so important as either French or German.

The practical instruction consists of infantry drill (including skirmishing and musketry), riding school, fencing and gymnastics; the instruction in this latter is on the German system and very thorough.

(*c*) He then joins a regiment as an "officer candidate" for a period of six months, during which time he does the same duty as the "soldier," but is allowed certain privileges, such as a room to himself, etc. While here he receives clothing and equipment, and is fed by the government, receiving no pay; but as his requirements are not very great this is a matter of little consideration.

(*d*) The cadet then enters the Military School, where the course is one year. For discipline the cadets are divided into companies, in charge of a captain of infantry, with a subaltern to assist him for every thirty in the ranks. Here he is taught the usual military subjects and foreign languages; he is also put through a veterinary course, no matter what arm he belongs to. The theoretical instruction is the same for all; only in the practical so far as is necessary is the work distinct from each branch. To render him "physically fit" he has gymnastics, fencing and bayonet fighting, besides instruction in the use of the long two-handed sword, which on several occasions in the present struggle has been used with great effect at close quarters; in fact, it is the favorite weapon at all times, when it is a matter of hand to hand fighting. During the summer months the cadets are taken to the seaside for swimming instruction, and they also attend the annual maneuvers for instruction, under the guidance of specially selected staff officers. The final examination comes next; and those who don't "drop" are sent back to their original corps as "probationary officers" for a further period of six months, after which, if well reported on, they are finally commissioned as second lieutenants.

Now as to the other method:

(*b*) By graduating from a Middle School recognized by the government.

Armed with this certificate and a written permit from the commanding officer of the regiment he wishes to enter, he joins as an "officer candidate" under the same conditions as the cadet from the Central Military School, with this difference, that instead of six months he spends one year with the regiment. He then enters the Military School where his education is the same as in (*d*) of the other method

This way, though not considered so good a training as the other, is nevertheless availed of by a great many; partly because it gives the candidate his own choice as to his profession, and secondly, the expenses incurred are not so high as in the other case.

At the graduation ceremony, which is held in November, the Emperor always makes it a point to be present, if possible, and present prizes to the first three out of the five hundred who pass at one time. On this occasion also a musical ride is given by the cavalry cadets, and wrestling and obstacle races are held for the others, prizes for which are also presented by the Emperor, and handed to the winners in his presence. The features of the system are the year or six months the cadet spends in the ranks, and the particular attention paid, not so much to ordinary parade movements as to skirmishing, musketry and other exercises calculated to improve his knowledge and develop his capacity, so that when his turn comes he will, if occasion arises, be able to act on his own initiative. Turning to the cadet's physical training, perhaps the most remarkable feature it possesses in the eyes of a European, is the system of wrestling called "Judo," or as it is better known "Jujutsu;" the

point about it being the fact, that once having got your opponent down, you can keep him there by various grips, even to the extent of breaking either an arm or a leg.

There are many systems of "Judo," but that used in the army is styled "Kodokwan," from the name of the hall where the inventor of the system first taught his art to anybody who cared to learn it. It certainly is splendid exercise, and does all that is claimed for it, viz: enable the weak to overcome the strong.

The artillery is the most popular arm, and cavalry the least so; the reason being, as the Japanese have it, that cavalry get fewer chances in war time to distinguish themselves, and therefore to be avoided; besides which, their theory is that the practical use of cavalry is limited to scouting, etc., their fighting value being a very doubtful quantity; and perhaps taking into consideration the topographical conditions of the ground out in these parts, where their battles must be fought for at least many years to come, they are right. In peace time there is no promotion from the ranks in the Japanese army, but in war time N. C. O's of or above the rank of sergeant can be promoted on the field for special acts of gallantry. So far in this war few of such promotions have taken place, but then in this army such distinction really takes some earning.

I have mentioned that at the military school the theoretical instruction is the same for all. In order to provide the necessary special instruction for officers of artillery and engineers, there is a school in Tokio where most subalterns of both arms find their way; the first course lasts a year, after which period a weeding out process takes place; those selected go on for another year, on completion providing the "specialists" for their respective corps. No article on the education of the Japanese officer would be complete without mentioning the inculcation of that spirit which teaches him to put loyalty and duty before all other considerations; not that this is anything new, as it is but the continuation of the "Yamato damashii" or spirit of Japan, which we might say is the property of the nation to a man. The modern soldier has displaced the "samurai" of the days of feudalism, but the principles of the latter are preserved, and Japan's warriors in Manchuria now, by facing death as a matter of course, are but performing those same deeds over again, as are revealed in every page of the history of Old Japan.

AUTOMOBILES IN THE ARMY.

By CHARLES NORMAND, in the Paris "Auto," February 19, 1905; Translated by FRANK P. LAHM, Second Lieutenant Sixth Cavalry.

THE use of automobiles in all the government departments is becoming more and more general, and it is indisputable that in the more or less distant future, there will be no other method of traction or of locomotion. It is not my intention to recall here all the uses to which vehicles driven by motors can be put. I desire simply to examine the importance of automobiles from a military standpoint.

For several years, now, automobiles have been in use in the army, especially by staff officers. It is well known that nearly all generals, when they are at maneuvers or in the field have a certain number of automobiles at their disposal, which assist them greatly in performing their duties. Think of the time it used to take a commanding general when he had to visit on horseback the scattered positions occupied by the brigades and regiments of his command. A large part of his day was given up to this inspection of the terrain, and while he was away work and plans which demanded his presence at headquarters had to be suspended. To-day, with an automobile, how much simpler the whole question becomes. In an hour the field officer can personally assure himself that all his directions have been carried out, and then has all the leisure time he needs to devote to other matters.

For the present the automobile's sphere of usefulness in thearmy is limited to just about this; but how that sphere will be extended in the future!

I was reading recently that a corps of volunteer "chauffeurs" had just been organized in Germany, and that a special uniform was going to be devised for this crack corps. It is too early to say what this special regiment will be able to do in time of war. It is safe to say, however, that it will be a source of anxiety and constant concern to the enemy. Just how will an army be able to defend itself against these diabolical machines making 100 to 200 miles in a day? The great question for an army is not to let its wings be outflanked, and up to the present, with only infantry or cavalry to deal with, this has been easy. But how can it help being outflanked to-morrow, when volunteer "chauffeurs" will turn its flanks twenty, twenty-five and thirty miles away? Then we shall see what this new kind of forager can do, when he takes the enemy in the rear. Of course they will not be numerous enough to fight battles, nor will that be their mission, but they will be able to cut communications, tear up railroad tracks, destroy convoys, burn provision trains. Then, having accomplished their object before the rear guard can reach them, they will have continued their mad career, carrying destruction to other points. Under old conditions, everything in rear of an army was perfectly undisturbed and had nothing to fear. The day when we shall have companies of expert and fearless "chauffeurs," there will be no more security at the rear of an army than at the front.

And in reconnaissance the automobile will be of great value. We know that in the wars of to-day, they send out armored trains along the railroads, whose function is to push forward and find out for the commanding general the positions occupied by the enemy. But there is one great objection to the locomotive. You always know just what route it will take; it is easy to ambush, and since it cannot return by a different route, its line of retreat can be cut. With the protected automobile there is nothing of this sort to fear. The iron carriage passes the place that it wishes to reconnoiter like an aerolite, takes a road to the right or left, disappears from the sight of the vedettes who are watching it, and returns to its starting point by the road it considers the most favorable.

In my opinion, automobile wagons might also be useful for the rapid transportation of certain artillery pieces. Of course I do not maintain that mechanical traction should take the place of animal traction for drawing guns, but I believe that if each brigade or each division had one or two light batteries mounted on automobiles, it would prove very profitable. These pieces could be brought up quickly to a threatened point, they could be thrown forward to stop the enemy until the troops could deploy. This last point is an important one, for everybody who has been in a battle, knows that its fate often depends upon the dispositions made early in the day.

In transporting supplies, too, what service might be rendered by automobiles!

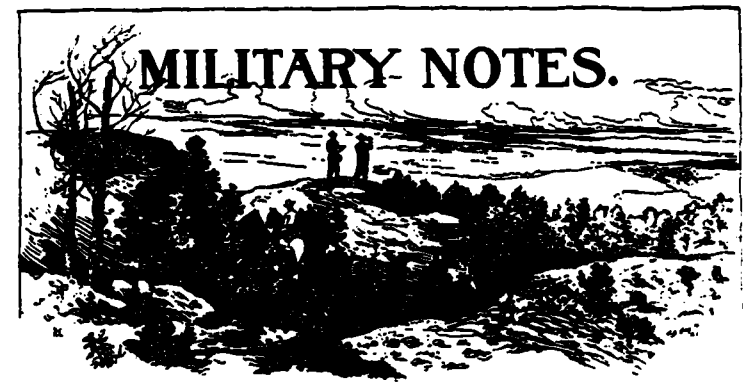
Of course I do not pretend to believe that automobile trucks will take the place of the long line of wagons which painfully follows an army on the march, transporting everything needed to feed the soldier; but I would like to see every regiment have one or two regimental automobiles, carrying enough supplies to last for a day or two. What does happen? A train marches at the rear of the column. As long as you are advancing, everything is all right; but when the battle begins, if you are afraid of having to retreat, the first thing you do is to send the train ten or twelve miles to the rear, partly to clear the roads for the troops in case you do retreat, partly to prevent your supplies from falling into the hands of the enemy. Then what happens? If the fortune of war is with you: if, instead of losing ground you gain, if you have advanced six miles, for example, at the end of the day you find yourself sixteen or eighteen miles from your supplies, and you cannot feed your men. These difficulties would be easily avoided with the system that I propose, if each regiment carried on automobiles only those articles absolutely necessary for guaranteeing one day's supplies. After these are distributed, the automobiles go back to the reserve supplies to get what is needed for the next day, and the troops would never run the risk of going hungry—a thing which used to happen all too often, alas, under the old sytem.

From a military point of view, there are many other services that could be rendered by automobiles; but these are

problems which cannot be solved *a priori*. They will have to be carefully studied out by competent men. I have limited myself here to calling attention to a question which seems to me to be quite worth considering, and which, from the standpoint of the national defense, may be of capital importance.

Wagner

June 17, 1905



SHORT TERM REËNLISTMENTS.

By G. H. G. GALE, Inspector General.

ALL other things being equal, it is a universal custom in purchasing a horse or a dog, to take a trained animal in place of an unbroken one if the cost is the same, and large sums are exacted and paid annually by those who have to do with domestic animals for their training for service. In the purchase of horses for the cavalry and artillery we insist that they shall be well gaited and broken to bit and saddle, paying perhaps more for them than would be demanded if they were bought untrained. In enlisting our recruits, however, we pay practically no attention to their previous training or occupation, but take them "unbroken." It would seem, if we might recruit our army with trained soldiers, that although the expenses of maintaining it might not be diminished, the results attained would be materially improved, and any measure whereby we may increase the military knowledge of the recruit when enlisted, without increasing his cost to the government, will be a distinct economy and an improvement in the general efficiency of the army.

On inspection of the troops which constitute our army to-day and the records pertaining to them, the most noticeable feature which impresses one is the youthfulness of the men and the general absence of the old soldier. The short term of enlistment makes it necessary that from honorable discharges alone, nearly one-third of the army shall always consist of recruits of less than one year's service, and when death and desertion are taken into consideration this proportion is very materially increased. The factor of desertion is a very serious one in the problem of keeping our personnel up to its proper strength, and I think it is a fact that more than one-third of our deserters are men of less than three month's service. The cost to the government of these men who have never rendered it a single day's trained service is correspondingly great, and by providing the material for desertion is worse than an absolute waste of money.

It is not the purpose of this paper to discuss the causes of desertion, but rather to confine it to a consideration of a class of recruits, always available, who will not desert, and who will afford the government more for its money than it is getting now.

There are varied opinions on the three year enlistment, many thinking it is too short, and others believing that it and the limited number of reënlistments which occur at present are a good thing for the country, as they afford an opportunity for the training of a larger number of men, and thereby afford a larger force available for the volunteer service in time of need. It is a common belief that this last theory is wrong, inasmuch as the old soldier is not very much in evidence when volunteer forces are organized, for reasons best known to himself, but presumably because he believes that as a rule he is more competent to fill the position of the commissioned officer than those who are apt to receive the commission. It is a painful fact to acknowledge that in many cases he is right. Whether this is or is not the true reason it is not believed that the three year enlistment has in this measure fulfilled its expectation, and the fact remains that we in the service are kept up to the perpetual grind of training our men to do their duty, and then generally seeing

them revert back to civil life only to be replaced by others with whom the effort has to be repeated with the same disappointing results. It is believed that the three years spent in the ranks by the young man without a trade is most beneficial both to him and his country, merely as a preparatory training for the battle of life, but this same training would result in a corresponding benefit to the army at large if he could be persuaded to reënlist and thereby give the results of his training to the school which taught him.

In default, therefore, of the longer enlistment which naturally afforded a larger percentage of men who had been thoroughly taught their duties, we must look to some method of persuading the soldier to reënlist. It is not thought that mere increase of pay will accomplish this end, and it is believed that with the status of pay and allowances as they are now fixed, a scheme of reënlistment may be devised which will do much toward the end desired. As a rule the soldier on discharge has no very definite pursuit in view. Some settle down near by the place of discharge; some return to their homes, and many wander in a desultory manner "hunting a job," until they finally settle as circumstances dictate. The seemingly long term of service deters many from reënlisting who without doubt would willingly put in another year of service if they might reënlist for that period, and it is probable that this year ended they would continue to reënlist from year to year until the habit of service being fixed, they would settle down to a soldier's life as a calling and not merely an incident.

A limited reënlistment should not, however, be without conditions, or the extra labor and expense would more than compensate for the benefit which would accrue. The following, therefore, is suggested:

A soldier eligible for reënlistment shall, if reënlisting within the prescribed limit of time at the place of discharge, or the nearest recruiting station thereto, be entitled to a reënlistment period of *one year*, if the reënlistment be made for the organization (troop, battery or company) from which discharged, and a reënlistment for *two years*, if made for the same regiment or corps, but not for the same organization.

It is believed by the writer, and he is upheld by the opinions of many old noncommissioned officers with whom he has discussed this question, that a provision as above would persuade many good soldiers to reënlist. It was the almost universal experience in the Philippines that men were rarely willing to be left behind for discharge when an expedition was afoot, but almost without exception preferred to take their chances with it, although by so doing they nearly always deferred their discharge for days and sometimes for weeks.

Another consideration should be given to men who reënlist which, although costing the government little or nothing, is of vital pecuniary benefit to the soldier—the matter of a bounty equal in value to the average cost of enlisting a recruit. I do not know how much our recruits cost us, but believe that from the date of enlistment until say sixty days later, before which time the recruit has rendered no service of value to any one but himself, $150 is a conservative estimate. Should then a bounty of this amount be paid to the reënlisting soldier he will be gainer as also will the government, as the reënlisting man will be rendering service during the peroid the recruit would be in training. This bounty should be graded and should not be paid to the soldier in cash, but credited to his account as a savings deposit, forfeitable only by desertion or on sentence of a court involving dishonorable discharge. This latter provision is suggested to meet the case of a soldier reënlisting and afterwards willfully misconducting himself for the purpose of receiving discharge and obtaining possession of the bounty—a possible contingency.

The amount credited on a reënlistment for three years should be the average cost per recruit of the recruiting service for the preceding fiscal year; for a two years' reënlistment, seven-twelfths of this amount, and for a one year's reënlistment, one-fourth. These fractions are selected to encourage the longer reënlistments by giving a proportionally greater bounty. Provision should also be made for short term reenlistment at a place not that of discharge, in which case the bounty credited should be diminished by the cost of transportation and subsistence to the station of the organization for

which the enlistment is made. The entire bounty for the three year reënlistment should be allowed, irrespective of the place of enlistment. The whole sum is suggested as a bounty in bulk rather than a corresponding increase of pay, as it seems larger to the man, encourages the continuance of a savings deposit, and under the conditions suggested ensures to the soldier his reward for reënlisting unless he forfeits it by misbehavior.

It is believed that the method roughly outlined above will in a great measure help to do away with the immense percentage of desertions which now obtains among recruits, materially improve the discipline and training of the enlisted force of the army and cost little or nothing, if indeed it does not result in a direct pecuniary saving to the government.

It is also believed that were the privilege of the purchase of discharge opened to all soldiers at all times, irrespective of their length of service, a material benefit would ensue. The old soldier seldom wishes to exercise the privilege: if he does, there must be good and sufficient reason for it, while in the case of the recruit it is highly probable that many more young men of excellent origin might be induced to try the service if they were assured that if it proves unsatisfactory they may sever their connection with it at once in an honorable manner. The release of young men who purchase their discharge is almost always a distinct loss to the service, but it is better to allow the purchase at once than to hold the man for a year, during which time his services are of comparatively little value, and thereby, in holding him to an irksome contract, encourage his discontent, which will most likely act as a deterrent to other young men of his class and keep them out of the service.

GENERAL SHERMAN AND THE INFANTRY AND CAVALRY SCHOOL.

By Major WM. C. BROWN, Third Cavalry.

WHEN the General Service and Staff College, originally known as the School of Application for Infantry and Cavalry, was established, its founder, General Sherman, took a most active interest in it, even to the selection of the text books to be studied. As a text book in the art and science of war, the General had selected an English work, "Soady's Lessons of War, as Taught by the Great Masters," and sent his personal copy of this work to Fort Leavenworth for examination.

On the fly leaves and margins of the pages, he had jotted down his own ideas as they had occurred to him in the course of his reading.

As time approached for this part of the course effort was made to secure copies of Soady, but the English had evidently failed to appreciate the work at its true value, and it was out of print—even second hand copies at $10.00 a volume were difficult to obtain.

The work was almost entirely a compilation but it represented the gist of the best military works of the day.

General Sherman's notes, coming from so distinguished a source, were transcribed by some of us, and in repacking old text books recently the writer found a copy of the book and notes, the latter of which are presented here hoping that they may be of interest to the readers of the JOURNAL.

GENERAL SHERMAN'S NOTES ON "SOADY'S LESSONS OF WAR, AS TAUGHT BY THE GREAT MASTERS."

"This volume should be the text, and Hamley as auxiliary and illustrative." (Title page.)

"Generals in chief command generally worry more about things which never happen than about real catastrophes." (Page 13.)

"Unseen but apprehended danger causes more feeling than any amount of real danger which is seen." (Page 13.)

"A general must be familiar with the temper and qualities of his men; must know what they can do, and therefore, previous service with them is essential." (Page 14.)

"The simplest test of true courage is to ascertain, in the midst of confusion and supposed danger, that all the senses are perfect, and that a man remembers numbers, distances, etc." (Page 15.)

"The student had better confine himself to the wars of Napoleon."

"Fortune favors those who work hardest to secure it; or favorable accidents are in inverse proportion to neglects and mistakes." (Page 16.)

"Exact knowledge, say of geography and physical resources, extends the range of vision and gives advantage to the possessor, in the exact measure of his knowledge." (Page 17.)

"If a general conceive a campaign or even a subordinate movement, without thinking afterward, all his acts tend to that end, and thus by convergence, almost secure success." (Page 17.)

"The absolute separation of politics from management of armies, has advantages and disadvantages. As a rule, politicians are not soldiers or men of action, but the moment soldiers achieve results, the politician claims the honor and forthwith deposes and belittles the soldier." (Page 19.)

"I never attended or saw a council of war in my life." (Page 20.)

"Strategy is the act of handling an army in an extended theater of operations to the best advantage. Tactics is the art of handling an army in a limited field as though in the immediate presence of the enemy." (Page 23.)

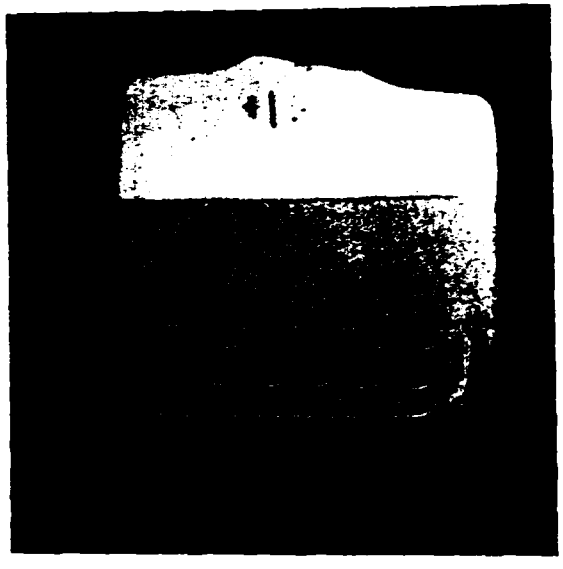
"I have not read the whole of this book, but have followed its general system and logic. I think it better than Jomini, which is too dull, prosaic and didactic; better than Hamley, who, however, skillfully illustrates principles by examples."

"This book, better than others, recognizes the force and effect of modern inventions, of steamers, railroads and breech loading rifles." (Fly leaf.)

SUGGESTIONS FOR IMPROVED PISTOL CARTRIDGE BOX.

By First Lieutenant DAVID H. BIDDLE, Sixth Cavalry.

I HAVE recently received from the Ordnance Department a cartridge box for pistol ammunition cal. 38, to be worn with the leather waist belt (see illustration No. 1). Inside



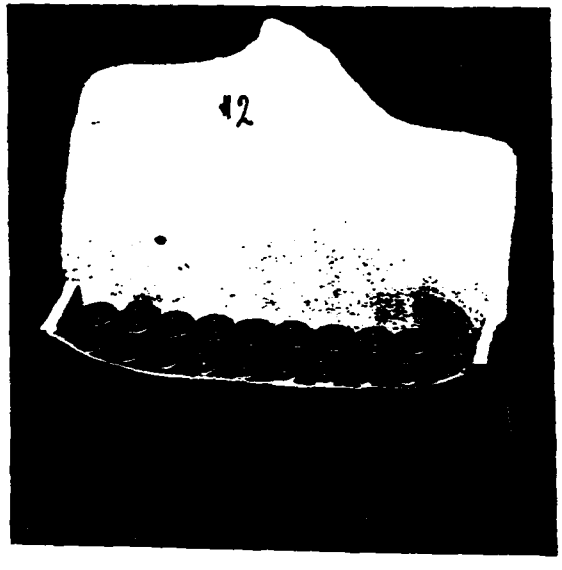
this box is a block of wood bored with twelve holes, presumably sufficiently large to accommodate a cal. 38 cartridge. I find, however, that these holes are so small that when the cartridges are "thrust home" it is almost impossible to remove them with one hand. As an improvement on the box above referred to, I recommend a box as represented in illustration No. 2, which is one inch longer, but otherwise the same size as the one issued by the Ordnance Department.

It has the following advantages:

1st. It holds twenty cartridges.

2d. The cartridges can be placed in the leather box without removing them from the original package, by simply pulling the string on the box, removing the cover and placing the box in the leather box, or the paper box can be put in the leather box without removing the cover. If the ammunition is not used it could be "turned in" in the original package.

3d. The liability to lose ammunition is greatly reduced.



I have experimented with the ordnance box after removing the wooden block. The box then easily holds twenty cartridges. The box as now issued has the following disadvantages:

1st. Liability to lose ammunition in transferring it from the paper to the leather box, particularly when mounted.

2d. It is very difficult to fasten the cover by buttoning to the stud underneath when the box is empty.

3d. It holds only twelve cartridges.

BITS.

The Editor Cavalry Journal:

On page 956 of the last number of the JOURNAL, in the advertisement of the Kasper Oats Cleaner, you write:

"Civilians * * * coming for the first time into an army post * * * ask us why we ride with a single rein and curb bit, when horsemen the world over use a double rein."

In each number of the JOURNAL I see arguments for this bit or that bit or the other bit—any old bit that is complex, hard to keep clean, expensive, freakish in shape, or otherwise available to hang an argument on.

What is the matter with the bit and bridoon in common use among skilled horsemen the world over? Why does not some cavalry- or artilleryman come up and ask for a simple snaffle bit, and a simple curb bit, with steel curb chain and leather lip-strap, the simplest, cheapest and most sensible combination for the guidance and control of a riding horse?

Contemporaries of mine at the Military Academy will remember Captain Metcalf's basic principle of the "independence of function;" how it was drilled into us on all possible occasions, and how true it is. Apply it here: The snaffle, simple, mild in action, not covered by any patent, hence cheap, easily kept clean—the only thing necessary for the complete control of the horse in at least ninety-eight moments out of a hundred. Independent of this, the curb bit is always there, available for those rare moments of willfulness when the snaffle is insufficient to restrain. The lip-strap, easily adjusted, easily made, doing away with the snake-like curves, fruitlessly devised to prevent the horse from hindering the action of the curb by lip or jaw; the steel curb chain, easily adjustable to all widths of bit, and heights of bars—what is simpler, more complete, more satisfactory?

I challenge any one to produce any successful argument against this combination in favor of any device that includes the double rein.

F. C. MARSHALL,
Captain Fifteenth Cavalry.

WEST POINT, N. Y., May 14, 1905.

We never had any idea other than that the bit and bridoon was the best bit made. But when we joined the cavalry service some years ago and asked why this bit was not given to the enlisted force we were told by the older officers that soldiers, and particularly recruits, could not handle a double rein. As we knew very little about soldiers and recruits at that stage of our experience, we asked no further questions. We have never seen the experiment tried as to whether recruits could or could not handle the double rein, and we very much doubt if the older officers that gave us information upon that subject had either. It was frequently the habit of the older officers to pick out some particular man whose fingers were all thumbs, and while he was vainly trying to control his horse, remark, "What would that man do with a double rein?" and then seem to be satisfied that they had answered the question of double reins for the service. It was plainly apparent that the particular man could have done no worse with two reins than he was doing with one, but that fact seemed to have escaped notice.

Of course there is great good in having arguments about all sorts of bits appear in the pages of the JOURNAL. Probably there is no subject of more importance to a cavalryman than the one of bitting, and certainly not enough attention is paid to it. Unquestionably there are but few people who, having tried the bit and bridoon, are not satisfied with it and believe in its adoption for the cavalry. We have seen but one horse that could not be controlled as well by it as any other bit, and the one exception was a polo pony that was amenable to only one bit, a Mohawk. But of course for general service there is no comparison between the two bits. The prejudice, however, against the double rein is probably too deep-seated to be overcome, at present at least, and so long as we must have monstrosities it perhaps makes little difference which one we have. However, in this connection we wish to call attention to Captain Herman A. Sievert's bit, described in the last issue of the JOURNAL, and would suggest it be given a thorough trial.—[EDITOR.]

SETTING UP THE HORSE.

By Captain GEO. H. CAMERON, Fourth Cavalry.

PRELIMINARY training is as essential to the recruit horse as to the recruit man. The accompanying two photographs show an improvement of the animal, just as marked as the transformation of the loose-jointed recruit into

Plate I.

the trim soldier. Plate I is a photograph of a horse of the plug order, just after he was received at Fort Riley. At that time he had vicious tendencies, on account of bad handling. He reared, kicked, and bucked, and a board of officers reported him as a "spoiled horse."

Seeing that the animal was well on the road to the inspection report, Captain W. C. Short, Thirteenth Cavalry, instructor in equitation at the School of Application for Cavalry and Field Artillery, requested permission to take him in hand as an object lesson to the members of the class in

Plate II.

equitation. Plate II shows the result of six weeks of systematic training, one-half hour twice a day. The horse, as may be plainly seen, is now well assembled, with well-developed muscles, is supple from jaw to haunches, and is perfectly kind and gentle. He executes creditably most of the difficult steps of the high school. Note his easy balance on two legs, and especially observe his improved muscular development.

OUTLINE CARD OF PUBLIC ANIMALS.

By Captain WM. T. LITTEBRANT, Twelfth Cavalry.

SOME few years ago Colonel Godfrey devised an outline card portraying the off and near elevations for the identification of horses. Ever since troop B Twelfth Cavalry has been organized, I have followed his idea with an elaboration of front and rear elevations. The former thus gives all of the markings of face and chest, the latter such occasional marks or brands as may be made on the inner thighs.

The accompanying illustrations are from stamps made of wood in Batangas, P. I., at a total cost of thirteen pesos.

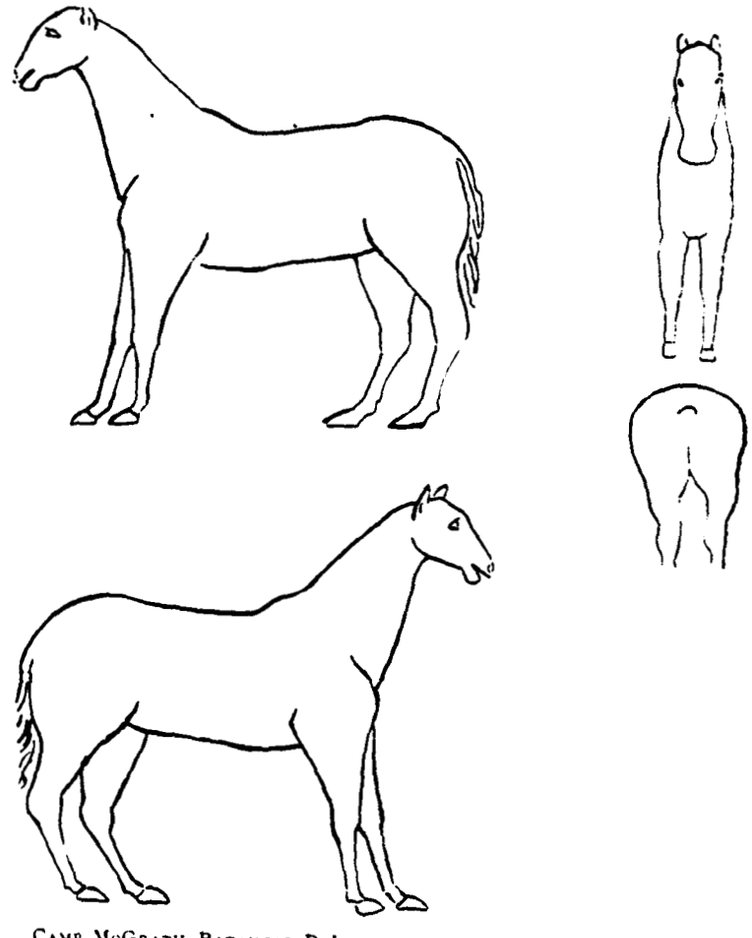
This kind of "descriptive list" is so incomparably superior to the written one that I am surprised that it has not been adopted long since in the transfer of animals by the Quartermaster's Department.

Each horse's career can thus be easily carried on one card, those of the whole troop being strung together between covers. In the absence of these, I use the stamps in an ordinary blank book.

An article on this subject was published a few years ago in the Cavalry Journal (author, Colonel Godfrey, I believe),* and I simply invite attention to what I deem a good thing for the service, and which has apparently passed unnoticed.

* Published in October, 1903, No. 50.

No ... Name ... Rider ...
Color ... ...
Age ... ...
Purchased by ... ...
Received ... Record ...
Cost ... ...
Condition when received ... ...
Received from ... ...
... ...



Camp McGrath, Batangas, P. I.,
March 9, 1905.

CAVALRY PACKS.

By Captain WM. T. LITTEBRANT, Twelfth Cavalry.

IN a recent issue, I observed a call for comments. Here is one. The device suggested by Captain Vidmer to keep the cantle pack clear of the horse's back is the most valuable one that I have seen for some time. Some such attachment is necessary.

Young officers who have never served in Arizona, or seen a sore on the back-bone as a result of pressure thereon, or had to provide for a soldier who has given his horse such a sore, may not realize the necessity for keeping the pack clear; and not unique is the old officer whose troop I have seen at inspection with a majority of cantle packs on the horses' backs, and this without comment, notice or correction on the part of such old officer. If officers be ignorant of this requirement, what can be expected of a soldier? Many probably think that the opening in the crotch of the saddle is to give the rider air! Many a pony have I seen in Cuba with a sore back due to pressure of the leather seat-cover upon the accumulation of pad or blanket over the spinal column!

Some years ago, I read an article in the Cavalry Journal by an officer of the Eighth Cavalry, who advised that no packs be strapped on the saddle until after the horse was saddled. The soldier was then required to execute a "face to the rear" to pack his saddle. The gist of this recommendation was that the coat straps should always be inserted through the pommel and cantle slots towards the seat; thus in case of loose packs, they can be tightened by the mounted soldier (trooper) by pulls and raising the packs to position instead of pushes and lowering the packs to the spinal column or withers I find that this is the only way to secure the packs properly; then, too, the ends of the straps can be more easily cared for, although I permit my men to pack the saddle before saddling. But in view of the fact that coat straps, especially those made by the troop saddler, frequently stretch, even

constant vigilance, in spite of all precautions, sometimes fails to accomplish what the simple device recommended by Captain Vidmer will so easily effect.

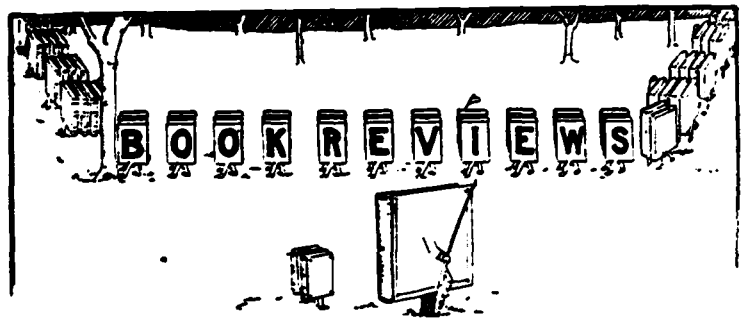
Camp McGrath, Bantangas, P. I.
February 13, 1905.

PHILIPPINE DIVISION INFANTRY COMPETITION.

Just as we go to press the Journal receives the bulletins from the Philippine Division Infantry Competition, 1905, held at Malabang, Mindanao, April 24th, 25th, 26th and 27th.

The final order of the four days is as follows for the first five men:

Order.	Name.	Rank.	Company	Regiment or Corps	Total.
1.	Thomas Hinton,	Sergeant,	I	Engineers,	800.
2.	F. Trouchet,	Sergeant,	L	23d Infantry,	807.
3.	M. B. Dunbar,	1st Sergeant	E	4th Infantry,	800.
4.	C. B. Williams,	Corporal,	H	7th Infantry,	796.
5.	Chas. Schwier,	Sergeant,	C	23d Infantry,	7[illegible].



Dodge's "Napoleon."* Colonel Dodge needs no further introduction to military men, to whom his "Birdseye View of the Civil War" and his "Campaign of Chancellorsville" were well and favorably known before he began the important group of works which are to be embraced in the "Great Captains" series, of which the "Hannibal," "Alexander," "Cæsar" and "Gustavus Adolphus" have already appeared. The "Napoleon," two volumes of which are in print, will be followed by "Frederick the Great." As it is the author's purpose to trace the history of the articles of war in the careers of the world's greatest military leaders, this departure from the natural order of treatment is explained by the author as being due to the fact that the exhaustive study of the life and campaigns of the great "Frederick," which is now being carried on by the German General Staff, is not yet completed. Students of military history will appreciate this, as the valuable collections of maps, reports and correspondence relative to that sovereign's reign, which form a part of the archives of the Prussian War Office, are now being critically studied for the first time. The results of this work will be awaited with interest by all students of military affairs.

*Houghton, Mifflin & Co., Boston and New York.

So much has been written about Napoleon, and his life and campaigns have been so thoroughly studied and criticised from all possible points of view, that it would seem at first sight that but little remained to be said of that great soldier's military career. But new books continue to appear, the demand shows no sign of diminution, and it is safe to say that the first quarter of the twentieth century will show more considerable additions to Napoleonic literature than were made in the first quarter of the century, in which the greater part of his life work was accomplished, and which witnessed his final elimination as a factor from European affairs.

Colonel Dodge's method of treatment is original, and is peculiarly adapted to the needs of officers of the army, whose book collections are small and whose opportunities of access to well stocked libraries are at best but limited. There has been a tendency to specialize in studying the campaigns of the Napoleonic era, and a disposition to reduce the narrative to its lowest terms, by omitting all allusion to the material and administrative side of the French army in order to bring into greater prominence the bare strategic operations and tactical conceptions. This method of study leaves out of consideration the tools and instruments with which his campaigns were carried on and his battles fought

What did the French soldiers eat? How were they paid and clothed? What was the organization of the Imperial armies? How were they drilled and armed? What were their battle formations and in what respects did they differ from the evolutions of Frederick's time? These questions—all of them interesting and some of them essential to an understanding of the strategy and tactics of the period—are fully answered by our author, briefly, to be sure, but sufficiently, and in a way to interest the student.

In Colonel Dodge's first volume the student will find much that will be new to him in respect to the organization, supply and administration of the French armies, which will enable him to understand the early successes, and to account for some of the failures of the Revolutionary armies. He will learn how much the Royal French regiments learned from their

association with the Continental armies during our own war of the Revolution; how the flexible battle formations and the extended use of open order skirmishing, which we attribute to the genius of the Emperor, were really invented by the "embattled farmers" of our Revolutionary armies. He will also learn something of the drill regulations of the Consular period, of the organization of the Imperial armies; of the relative perfection of the French artillery, then as now in advance of all others, both in theory and practice; and will be able to trace its development in mobility from the time when field batteries were hauled by contrast to the time, as the Imperial era was nearing its end, when field guns were moved by their own horses, ridden by drivers who were for the first time brought under military discipline and made subject to the operation of the articles of war.

Much of the first volume is given over to a study of the administration of French armies, and to a description of its materiel and personnel, and it is a matter of surprise how few changes were made in these respects during the Imperial period. The military institutions of a state are as much a matter of development as is its civil polity; and tactical and administrative ideas, once worked out and determined upon, change slowly. A state with an abundance of men and but little money will run to large companies; it will not then overpay its captains, and field officers are numerous only in countries which show an occasional surplus of revenue. If officers come from a leisure class and are insufficiently paid, such discipline as prevails in the rank and file will be largely due to the efficiency of the sergeants. All these things are incidents in the development of the military institutions of a state, and in studying the changes of the Consular and Imperial period we must never lose sight of the traditions and organization of the old régime. From 1789 onward changes followed each other in rapid succession, because experience was being gained and the republican armies looked facts squarely in the face. Defects were emphasized, old methods of supply failed or were found wanting, the weak points in the royal battle formations were eliminated and the army

adjusted its drill regulations to the flexible tactical maneuvers of its new leaders.

The Emperor was quick to distinguish between those things which were incidents of normal military development and those which were the mere wreckage of the royal administration. He made much of the marshalate; advancement to the higher grades, which before the Revolution had been due to court favor or family influence, he based upon achievement and military merit. It was as easy to rise in the Imperial armies as it had been under the Bourbons, and no soldier of the Empire ever failed to receive the promotion to which his services had entitled him. The Emperor was a good paymaster, advancement followed swiftly upon the heels of achievement, and a piece of good troop leading or a display of especial skill in staff work rarely escaped his observation or failed to receive prompt recognition.

The volumes before us carry the narrative to the close of the campaign of Eylau and Friedland in June, 1807, and in point of achievement was the most brilliant period of the Emperor's career. Successes were to come later and great victories were to be won; but the year 1807 marks the high tide of the Napoleonic fortunes, and in the eight years of activity which remained successes were to be won at higher cost and in the face of greater difficulty.

It is a tribute to the author's close and appreciative study of documents at first hand, and it will interest American readers to know that the problem of maintaining order in occupied territory is not a new one; and that Napoleon encountered in his Egyptian campaign the same difficulties which so beset our own officers just a hundred years later in the Philippine Islands:

"Bonaparte had long ago made up his mind that to rule Egypt—perhaps to rule any Oriential race—rigor alone would suffice. Right or wrong, on this theory he acted, at the same time making use of all other means of controlling the population. He pretended interest in Mohammedanism even to the verge, it is asserted with questionable authority, of becoming a convert to its teachings; and he made much of those in religious authority. It required an abnormal self-reliance, a determination of the highest order, to carry

through his plans in the face of the daily growing difficulties of the situation. The entire population was inimical; 'though beaten they were not subdued, and would not be for a long period,' he reported; and on every side were growing symptoms of revolt. Repression by the most extreme measures was in order.

"To Vial, Napoleon wrote from Cairo, September 26th: 'Citizen General, you will use the days during which the division of General Dugua can remain at Damietta to disarm the city, to arrest the suspects and send them to Cairo, to disarm the villages and take hostages.' To Dugua, October 6th: 'I am dissatisfied, Citizen General, that the five villages which have acted so badly have not yet been disarmed.' For having assassinated an officer and fifteen men, the village of Alkan was pillaged and burned, and the summary manner of dealing with the chiefs is well shown in an order of July 30th from Cairo. 'Bonaparte, General-in Chief, having proofs of the treachery of Seid Mohammed El-Koraim, whom he had covered with kindnesses, orders: Article 1. Seid Mohammed El-Koraim shall pay a contribution of three hundred thousand frances. Article 2. In default of his paying the said contribution five days after the publication of this order he shall be beheaded.' The money must have been paid to little advantage, for on September 5, 1798, 'it appears that Seid Mohammed El Koraim, convicted of treason by having kept up correspondence with the Mamelukes after having sworn fidelity to the Republic, and by having served them as spy, was shot in the citadel of Cairo; his head was carried about the streets, and all his goods were confiscated."

Colonel Dodge has made a careful study of the authorities, and his selection of Paris as the seat of his literary work enables him to study his data at first hand and in their original form. Wherever his material lends itself to that form of treatment, he makes his actors tell their own story from the original reports and dispatches. The maps and sketches, which are fully distributed throughout the text, enable the lucid and vigorous narrative to be followed with ease, and contribute to an intelligent understanding of the operations which are made the subject of particular description. The story is well and strongly told, with a freedom from insular or continental prejudices, and with a fairness and accuracy of judgment which none but Americans seem to have been able

to attain in discussing the career of the greatest soldier, and perhaps the greatest civil administrator whom the world has ever seen.

"We do not discuss his military greatness; that is universally acknowledged. To the civilian eye he seems, at his best, the greatest of all soldiers. Later on, even civilians may see faults. But, let what will be subtracted, there remains an irreducible maximum of fame and exploit. * * * Ordinary measures and tests do not appear to apply to him. We seem to be trying to span a mountain with a tape. But that he was great in the sense of being extraordinary and supreme we can have no doubt. If greatness stands for natural power, for predominance, for something human beyond humanity, then Napoleon was assuredly great. Besides that indefinable spark which we call genius, he represents a combination of intellect and energy which has never perhaps been equaled; never, certainly, surpassed. He carried human faculty to the farthest point of which we have accurate knowledge. Napoleon lived under the modern microscope. Under the fiercest glare of scrutiny he enlarged indefinitely the limits of human conception and human possibility. Till he had lived, no one could realize that there could be so stupendous a combination of military and civil genius, such comprehension of view united to such grasp of detail, such prodigious vitality of body and mind. 'He contracts history,' said Madam d'Houdetot, 'and expands imagination.' 'He has thrown a doubt,' said Lord Dudley, 'on all past glory: he has made all future renown impossible.' This is hyperbole, but with a substance of truth. No name represents so completely and conspicuously dominion, splendor and catastrophe. He raised himself by the use, and ruined himself by the abuse, of superhuman faculties."*

GEO. B. DAVIS,
Judge Advocate General U. S. Army.

The Effect of Tropical Light on White Men.†

The *raison* of Major Woodruff's interest-book, as he states, is "an attempt to prove or disprove the theory announced by von Schmaedel * * * That skin pigmentation of man was evolved for the purpose of excluding the dangerous actinic or short rays of light which destroy living protoplasm.

* Rosebery: "The Last Days of Napoleon."

† By Major Charles E. Woodruff, M. D., U. S. A. 8 vo., pp. 358. New York, Rebman Co., 1905.

Our author's investigations lead to an extensive search amidst many sciences including anthropology, geography, climatology, physics—especially with relation to light, history, sociology, pathology, etc., and convinced him that Von Schmaedel's theory was correct.

The discussion of blondness and brunetteness is interesting and suggests the thought that the color of a man's skin, eyes and hair is not necessarily an index of the quality of the brain. Was it not the late Professor Marsh who said that the proportion of brain to the body was recognized as the determining factor in the influence of a race? And he added, according to this standard the Japanese would overcome the world. On the other hand, Havelock Ellis, writing of the complexions of famous Englishmen, concludes: "It is clear that a high index of blondness, or an excess of fairness prevails among the men of restless and ambitious temperament, the sanguine, energetic men, the men who easily dominate their fellows and who get on in life, the men who recruit the aristocracy, and who doubtless largely form the plutocracy."

Our author in concluding his most interesting exposition of the evolution of blondness says: "* * * Color is purely a matter of selection in a slow migration. The broad-headed Alpine type, also called the Celto Sclavic, is now white, and it is no doubt descended from very early yellowish or brownish Asiatic invaders.

The effect of light on the blond races is set forth in several interesting chapters, and the author's conclusion is that no race can long maintain its characteristics outside of its own proper zone.

The practical feature of Major Woodruff's book for us is found in his rules for white men in the tropics, which are based on the axiom that acclimatization is impossible, hence if we of the Temperate Zone would survive in the tropics we must make our surroundings as nearly like those of our natural habitat as possible, and avoid the dangers that nature or art cannot enable us to resist.

Photophobia is strongly inculcated by our author, and he advises that our habitations, clothing, and work should be regulated so as to resist the destructive effect of the sun's rays. Unnecessary mental effort is to be avoided, and "the great majority of the studies in the schools for officers and men should be abolished in the tropics." Fatigue work should be done by the natives. The English in India have learned that "each soldier ought to have a coolie," and they certainly never require their soldiers to build roads unless the military necessity justifies the great cost in life and health. Of work of this kind done by our soldiers in the Philippines, the author says: "I have no hesitation in saying that these necessary military undertakings are the most expensive bits of road making in our history."

The much-discussed question of food is dismissed with the following words: "The white man, by reason of his exhaustions, possibly needs more meat than he does at home for an equal amount of physical labor," and this, it is believed, represents the consensus of opinion.

And, finally, none but the young, the strong, the healthy, should undertake a life in the tropics; to others, such an undertaking is fraught with disaster.

Major Woodruff's work is a valuable guide to us who have taken upon ourselves the white man's burden, the conquest of the tropics, and we cannot afford to ignore the results of his investigations. J. V.—R. H.

* * *

The *Broad Arrow*, the English Naval and Military Gazette, for April 15, 1905, has a very complimentary review of Major Woodruff's book. After giving a synopsis of the contents of the work, the review states:

"The limit of space precludes a reference to other most interesting and valuable information contained in the work, but sufficient has been referred to to show the importance of the subject dealt with. There is much in the book to attract the attention of the medical profession; at the same time there is much that will be found of value to those who are at present living in tropical climates, or who contemplate doing so. In conclusion, we may say that it is written in a style that is easily understandable by the ordinary reader, who will find in this work many items to interest and instruct. It is a remarkable book."

There is a feeling of satisfaction in knowing that our army contains men of preëminent ability, and that this ability is recognized abroad. We were fortunate enough to serve at the same post with the author while he was preparing his manuscript, and be granted an opportunity at the time to look over some of the chapters. Since that time we have been eagerly awaiting the publication of the volume. We find on reading the book that it is as full of meat as it was formerly full of promise, and we are certainly of the opinion that it warrants most deliberate consideration.—[EDITOR.]

Strategy Illustrated by British Campaigns*

It goes without saying that a knowledge of strategy is essential to all military officials, whether regular, militia or reserve. It is desirable also that every intelligent citizen should have a general understanding, at least, of strategical principles. But while military literature abounds in treatises on strategy comparatively few of them have been especially prepared for beginners in the study of military art and history.

The author of "Strategy Illustrated by British Campaigns" modestly announces at the start that his object has been to prepare an elementary work on the principles which govern the strategical movements of troops by land—a work compiled by a regimental officer for the use of regimental officers.

The peculiar feature of this book is that all the examples are taken from the history of the British army. It is the author's idea that when the British officer is fully acquainted with the strategy of campaigns undertaken by the British nation, he may then, if he will, turn his attention to those of Alexander, Hannibal and Frederick; to those of the great Napoleon, and especially to those of the Civil War in America. In the principles on which these were carried out, he will find nothing new. He will find the same combinations, the same brilliant conceptions, and the same mistakes.

* "STRATEGY ILLUSTRATED BY BRITISH CAMPAIGNS." By Captain C. E. K. Macquoid, D. S. O. Cassell & Company, Limited, London, Paris, New York, and Melbourne, Publishers.

And since this is true, the work of this author will not be without interest and value to military students of other nations.

The book consists of two parts, "The Principles of Strategic Maneuver" and "Influences Which Affect the Principles of Strategic Maneuver."

Part I treats of the leading principles of strategy on land, and discusses strokes at an enemy's line of communications, compelling an enemy to form "front to a flank," interior *versus* exterior lines, penetrating or breaking through an enemy's strategic front, and the direct advance on the strategic objective.

Part II treats of strategic obstacles, including rivers, mountains, fortifications, deserts, forests, and climate; of bases and configuration of frontiers; of the importance of being prepared for war, and strategy as affected by political considerations; of the influence on strategy of neutral, friendly or hostile powers; of the qualities of military leaders, the modifications due to steam and the telegraph, and the command of the sea.

There are seven diagrams and twelve maps; the book is well printed and attractively bound. Some errors in proofreading will no doubt be corrected in subsequent editions.

It is not surprising that the author, who belongs to the Twentieth Deccan Horse and is inspecting officer of the Hyderabad and Mysore Imperial Service Troops, should have found his task in preparing this treatise no easy one; He is to be congratulated upon the manner in which he has completed it, and upon the honor of having an introduction by Field Marshal Earl Roberts, K. P., V. C., who is pleased to recognize in the work a fresh attempt to arouse interest in, and direct attention to, an important subject, and who trusts the book will find many readers.

Wellington's Campaigns, 1808-15.*

In this small volume the author has presented a clear, concise and interesting account of Wellington's campaigns in the peninsula during the years 1808–9–10.

A good description of the topography of the theater of war is given, and the bearing of the topography on the operations is kept in view. In the comments on each campaign, the strategical considerations governing the campaign are well brought out.

The accounts of the battles are mere outlines, giving the object of the battle, commanders, forces engaged and losses (in round numbers), and a general description of the battle and its results.

For those seeking an outline of these campaigns, the book is an excellent one.

The book deserves especial mention on the score of convenient arrangement. A general map is set in facing the title page, and when extended is available during the reading of the entire book. Such sketch maps as are inserted to illustrate the battles are set in as extension sheets and in such position relative to the text referring to them that each map is in sight without interfering with the reading of the text.

It is to be hoped that the author will conform in succeeding volumes to the standard set in Part I. E. R. S.

"A History of the Twenty-second United States Infantry."

This charming little volume, compiled from official records by Major O. M. Smith, Captain R. L. Hamilton and Captain W. H. Wassell, U. S. A., has just appeared from the press of E. C. McCullough & Co., at Manila. It is dedicated to the regiment's "Killed in Battle," and is replete with many typical illustrations and with descriptive matter of great interest. Commencing with the regiment's organization, its history is traced through the War of 1812, the Civil War, various Indian campaigns, the War with Spain and the resultant insurrection in the Philippines, to the Mindanao operations of 1904. Much valuable military information appears in this work, including a list of battles, actions, etc., a record of field and staff officers since the regiment's organization, and a list of casualties from 1898 to 1904. If such a history as this were published by every regiment in the service it would be possible to have always on hand a complete official record of the entire army, easy of access, and which new additions from year to year would keep well up to date. The volume is admirably written, printed and bound; it forms a most valuable addition to the military history of the United States, and reflects great credit upon the officers who have so ably presented to the public the career of this gallant regiment. ($1.00)

R SHELDON,
Captain Eighteenth Infantry.

*"WELLINGTON'S CAMPAIGNS, 1808-15." Part I. Roleia to Busaco. Wellington's Campaigns, 1808-15, also Moore's Campaign of Corunna. By Major General C. W. Robinson, C. B. Hugh Rees, Ltd., London, Publisher.

The Siege of Baler.

At the time of the capitulation of Manila in August, 1898, there was shut up in the church of Baler, in the eastern part of Luzon, a Spanish detachment, which, cut off and surrounded by the insurgents some weeks previously, was endeavoring to hold out until relief could arrive. Nine months later, when the treaty of peace had been formally ratified by Spain and the United States, the survivors of this same handful of men, ignorant of the march of events, were still flying the Spanish flag from the belfry of the church, and bravely continuing their struggle against besiegers without and hunger and disease within, and it was not until after holding out for 337 days that the garrison was finally forced to capitulate. The story of the siege is told by the detachment commander, Captain Martin Cerezo, in "El Sitio de Baler," published from the press of the Colegio de Huerfanos, Guadalajara, Spain, and reviewed in a recent number of the *Revista Tecnica de Infateria y Cavalleria*. From extracts quoted in the review, it would appear that the book is an interesting addition to the final chapter of the history of Spanish empire in the East Indies.

"Handling the Straight Army Ration and Baking Bread."*

Many cook books, containing elaborate receipts when the materials are available, are published. The present volume differs from the ordinary cook book in that it assumes the components of the ration as the principal available supply, and from them constructs the bills of fare. These are not imaginary, but are those actually served to a troop of cavalry in the United States and in the Philippine Islands. Those actually served on a transport between Manila and San Francisco are also included.

All things necessary to successfully conduct an army mess are explained in detail. The duties of the mess steward, cooks, cook's police, manner of serving meals, care of utensils, messing in barracks and in camp, etc., are fully described. About 200 recipes are given, most of which can be prepared from the ration.

The author's statement that it requires the addition of three ounces of butter and one-sixth of a can of Highland Cream to make the ration perfect is correct. Some day an evaporated cream may form part of the ration, and, if butter is not included, perhaps there will be a small allowance of lard. Even a little would help. Then if granulated sugar is substituted for the present issue of sugar, we will have an ideal ration.

That part of the work devoted to baking bread and the management of the post bakery will prove of great assistance to post treasurers, and particularly so to inexperienced officers detailed in charge of post bakeries.

The book from beginning to end is practical. It describes what has been done, not what might be done. It will prove invaluable in the kitchen of every organization, and should be in the possession of every company of the Regular Army and National Guard.

*"Handling the Straight Army Ration and Baking Bread." By Captain L. R. Holbrook, Commissary Fifth Cavalry, and Color Sergeant Patrick Dunne, Fifth Cavalry, regimental instructor of cooks. Published by Franklin Hudson Publishing Company, Kansas City, Mo.

Transportation of Troops and Material.

Among the recent books from the Franklin Hudson Publishing Company, the well known publishers of military books, is a book on "Transportation of Troops and Material." The importance of the subject is so great and it has generally received so little attention that it is hoped that all line officers will read this book. It treats the subject in a brief and practical way. As the author states, "Conditions are taken as they are found, with the idea in each case of utilizing to the best advantage the means at hand. It is fully realized that in many instances conditions could be improved by legislation, but consideration of that phase of the subject has not been contemplated." Considering the above excellent spirit and the reputation of the author, Major C. B. Baker, U. S. Army, who has made a special study of the subject, one can readily recognize the value of this little work as a necessity to complete an officer's list of useful books.

R. F. W.

Catechismal Edition Infantry Drill Regulations, U. S. Army.

This little book at first seems useless, as it contains nothing that cannot be found in the Infantry Drill Regulations; but after a casual examination its value is quickly understood. It explains some things that might not be clear to the inexperienced. By its numerous questions all details of the infantry drill are brought out and more firmly impressed on one's mind than otherwise. It is especially useful for one preparing for an examination on the subject, as the questions are put in the usual examination form; certain facts are classified under headings in the drill book, and while one knows all the facts, he may fail to associate them under a heading, so when he comes to a written examination on the subject he may fail to do himself full justice in answering such questions.

This is from the press of the Franklin Hudson Publishing Company of Kansas City, Mo., and the author is General W. F. Spurgin, U. S. A., retired.

R. F. W.

Administration, Organization and Equipment Made Easy.*

This book embraces in one small volume a vast store of information for the British army officer on the subject named in the title. The text is compiled from a large number of reference books, with a view to assisting officers in preparing for their examinations for promotion. A short list of questions is appended to each chapter, while an appendix contains a much longer list with answers. The American officer who is interested in the subject of British administration, organization and equipment will find in this text a brief but clear statement of what has hitherto been regarded a complicated study. The chapters on Mobilization, Transport, Supplies and Ammunition Supply, though very brief, are especially interesting. A text, prepared on these same lines, treating the subjects from an American point of view, and brought up to date, would be very valuable to officers of the United States army. L. A. I. C.

*"ADMINISTRATION, ORGANIZATION AND EQUIPMENT MADE EASY." Published by Gale & Polden, London.

Editor's Table.

THE PRESENT WAR.

Of the making of books there is no end. This truth has been brought to light nowhere more forcibly than in the various publications that have beset the world since the Russians and the Japanese so thoughtlessly took to action that has resulted in flooding us with masses of literary stuff. So far no transcendent genius of historical accuracy or strategic acumen has dazzled us. But of course no one expects this at the present stage of the conflict. Perhaps when the war has become a thing of the past, and records are available and all censorship has been removed, some able compiler may come forth, and winnowing out the chaff, give the world an accurate and trustworthy story of the struggle. But meanwhile the interest is greater than it will be when the war is over, and so we hail with pleasure any volume by one who has seen ever so little of the fighting, and we willingly wade through pages upon pages, satisfied if we get a somewhat clearer conception than we had when we picked up the publication. . At present there are about seven well known books that have appeared treating of the war:

THE RUSSO-JAPANESE CONFLICT: ITS CAUSES AND ISSUES. By Dr. K. Asakawa, Ph. D.

This is a diplomatic history of the causes of the war, and told with the precision and accuracy that marks the author's countrymen. A glance at the introduction gives one the Japanese side of the question. But even though written by a Japanese the spirit of fairness and moderation is so marked that we wonder how the author did it. It abounds with notes and references to such an extent as to make the publi-

cation a good reference book, and yet this is done without detracting from the interest of the narrative. For a learned presentation of Japan's side one can do no better. It should be read by everyone who professes any interest in the Eastern conflict. Published by Houghton, Mifflin & Co. at $2.00.

•

DER KRIEGSSCHAU PLATZ IN OSTASIEN. By Major Joseph Schon.

This is a very serious topographical description of the theatre of war, 310 pages, with a general map on a scale of 1:1,000,000, a map of the Liaotong Peninsula at 1:1,000,000, a skeleton general map (showing the mountains by thick black lines) at 1:1,500,000, and plans of Vladivostock, Mukden and Liao-yang. It has been compiled mainly from Russian and German sources. The spelling of the place names is Teutonic; it is difficult at first to recognize old friends like Pingyang and Wiju as Pöngyang and Widschou.—*From the Royal Engineers Journal, May, 1905.*

PORT ARTHUR: THREE MONTHS WITH THE BESIEGERS. By Frederick Villiers.

Mr. Villiers was one of the correspondents that were held so long at Tokio. (Certainly not a small thing that the Japanese have taught the world is the proper method of handling war correspondents.) The book contains, so says the journal above mentioned, thirty-seven illustrations: Mr. Villiers Being Presented to the Emperor of Korea; Mr. Villiers' Servant; Mr. Villiers' Horse; Mr. Villiers' Sleeping Bag; Mr. Villiers' Invitation to Dinner, etc. Its value to military men depends upon whether the man who reads it will be benefited by such stuff as the above.

A SECRET AGENT IN PORT ARTHUR. By William Greener.

The author, an employee of *The Times*, reached Port Arthur, February 9, 1904, and was turned out near the end of that month. He worked during the siege from Newchwang. That valuable paper, *The Times*, derived little of its information, fortunately, from this employee.

FROM TOKIO THROUGH MANCHURIA WITH THE JAPANESE. By L. L. Seaman, Major and Surgeon, U. S. A., Spanish-American War.

Major Seaman has given us a readable book, even though our English friends are apt to laugh a little at the intense Americanism displayed. The American army is well acquainted with the author even since he ceased to be an officer, through his work and interest in the restoration of the former condition of post exchanges, and in his endeavors to increase the size and efficiency of the present Medical Corps. So the army will read his book with pleasure. The author has always taken the liveliest interest in the Eastern question, and being a man of independent means and unbounded energy, his return to the seat of war is an indication that he is going to see it through, and we shall await with expectant pleasure any publication of his further views on the subject.

WITH KUROKI IN MANCHURIA. By Frederick Palmer.

We are pleased to meet our old friend of "The Ways of the Service." Mr. Palmer is rapidly becoming known as the best war correspondent for military readers. It is true his book is not military history, yet he has spent so much time with our officers that he has imbibed such an amount of military knowledge that his writings contain much that is of value to the military student. From his book one gets a very good idea of the campaign of the divisions that landed in Korea and fought their way to Liao yang. Here the author closes his narrative.

THE RUSSO-JAPANESE WAR. By T. Cowen.

This is undoubtedly the best work on the war that has yet appeared. The author was a war correspondent, but he quit sending dispatches on account of the censorship. Embryo generals can obtain valuable imformation from this work as to how to handle war correspondents when confronted with the problem in the future. This should be in the library of all our army officers.

We would consider remarks about publications on the present war incomplete did we not refer to the articles now appearing in *The Outlook* from the pen of Mr. George Kennan, special correspondent for that weekly in the far East. Most people remember Kennan years ago, as the author of certain articles on Siberia that were published in the *Century Magazine*. Probably very few received all his representations on Russian life with implicit faith. So it was with considerable prejudice that we started to read his articles in *The Outlook*. But we must say we were most agreeably surprised. His work is on the siege of Port Arthur, and is the only one that gives a clear and comprehensive idea of the terrible siege. We had been reading, all the time that the siege was going on, from the press reports about this fort and that fort, and the newspapers gave us maps, at least what we supposed were meant for maps, but with all our attention we never got any idea of the lay of the ground. It is probable that there were people in the United States and Europe that knew where the Panlungshan, the Keekwan, and all the other forts were, and the positions of the works that formed the cordon around Port Arthur, but if so, they never placed their information where it was available. So we wandered in the labyrinth of names and had only vague and general ideas about all the places. Kennan, in the April 8th number of *The Outlook*, gives a very simple sketch and quite clearly shows the positions of the forts, their names, the hilly country and the position of the valley, and the Japanese line of investments on August 1st. From a comparison of this map with those displayed by Captain W. G. Haan, of the artillery, before the students of the Infantry and Cavalry School and Staff College, we find Kennan about right as compared with our attaches.

To Mr. Kennan, is due the credit of first giving us any idea of the environs of Port Arthur, and to him we are indebted for our knowledge of the reasons that led Nogi to make his disastrous frontal attacks. We have not read anything with more interest for years than his descriptions of the advances and the siege work of the Japanese. It is true the early part of his work as it appeared was about his endeavors

to get to the front and a general description of Chinese life in the Liaotong Peninsula, that are of no interest whatever to the military reader. But they are well presented, and to one not familiar with Eastern scenes will be of interest.

The Outlook is to be congratulated on being one weekly that has presented military men with something of value as distinguished from interest alone.

THE YELLOW PERIL.

The Japanese menace to the Occidental colonies in the East seems to be troubling quite a number of people. One of the latest to sound the warning is a Frenchman (as one would suppose) by the name of Marcel Dubois, writing in the *Correspondant* (Paris).

Monsieur Dubois thinks that the future conquests of the Japanese will extend south, not north. They may colonize Korea, but the climate of Manchuria gives the advantage to Russians over the soldiers of Nippon, who are accustomed to the softer latitudes of the monsoons. We had somehow, during the last year or so, been under the impression that there was nothing in Manchuria that gave the Russians any advantage over the Japs. We may be mistaken, and if so it would be well for Monsieur Dubois, for the benefit of the Russians, to state wherein that advantage lies more fully.

We agree in part with the author that the vast population of China renders it impossible for the Japanese to build up powerful settlements in that country. But all parts of China are not so terribly thickly settled as we were led to believe in our school days. We believe we have some recollection of Pechili Province, and we consider it quite possible for many Japanese to find work and a living there. But as a general statement we are willing to agree with the writer in this regard.

We are informed that the Japanese tide will flow south, the Philippine Islands accommodating some thirty millions, and Indo China (both French and English), Borneo, Java, and Sumatra being destined to deluge. Possibly so. Prom-

inent and influential statesmen in our own country have been led to believe that the Philippine Islands are a natural receptacle for the industrious Japanese.

The population of Japan to-day is said to be increasing more than half a million per year. She herself is already overpopulated. But we are inclined to believe that the increase for the next few years will be materially less, due to the destruction of life and property in the present war. Even if she be preëminently victorious over Russia and compel a billion indemnity, we very much doubt if the next fifty years will find her ready to handle any proposition other than the Korean and Manchurian ones. By that time we trust the people of the United States will have made up their minds as to what they want to do with the Philippine Islands. There are only two things to do: to establish there a free and independent nation or else have them become a part, not property, of the United States. In the former case it will then be none of our business should the Filipino become absorbed in a flood of Japanese. This would probably be quite agreeable to the Filipinos, as we have always heard from them the warmest hopes of Japan's ultimate success in the present struggle, "the Japanese," they say, "being Orientals like ourselves." In the latter case it will be a question of superior navies, and there is small reason to doubt but that ours will be the larger. Our resources at that time should still be far superior to those of a greatly overpopulated country.

So it would seem that the southern expansion of Japan will strike Indo-China first, and if the Japanese of that day remember the animosity of their forbears it will be French Indo-China first. This will take some years, probably as many as the Manchurian and Korean problems, and perhaps by that time we may be confronted with our first serious foreign menace.

However, we are inclined to listen with respect to the views of eminent writers and statesmen on the subject, for we may be wrong in our estimate of years, if the tide ever does start. If wrong, the remarks of Monsieur Dubois are particularly appropriate, and much that he says is sound sense in any case. The fact that we might meet such a condition should make

us a little apprehensive on the question, and like a good general, we should be prepared for any emergency, rather expecting the worse to happen. Monsieur Dubois could have uttered no greater truth than when he stated that the Japanese were keenly alive to their own interests, and that they have a perfect right to pursue them, and the power so to do. And no advice could be better than his in stating that the best course for European powers and America is to unhesitatingly face this question of self interest, instead of singing hymns of peace and pronouncing denunciations against war, a course which can do little either to suppress war or promote peace. And we must remember, should we be confronted with this problem, that no native Filipino soldiery will be competent to meet the men of Japan, but it will require the best from the brain and brawn of the American people.

DESERTIONS.

The problem confronting the navy is certainly a serious one. Something like six thousand men will soon be needed to fill the places in the new ships about to go into commission. When we consider this in connection with the desertions from our sister branch we are struck with the seriousness of the situation. A statement from the Bureau of Navigation shows that 3210 men, or 10.7 per cent. of the enlisted force of the navy, deserted during the past year.

We have been very much interested in the comments upon this by many of our leading papers. The Boston *Herald* remarks as follows: "The small pay and rigid discipline of the war-ships is not attractive to Americans, particularly in a time of peace and general prosperity," and along the same lines is the comment of the New York *Evening Post*, stating, "there is something radically wrong either with the official treatment of our men or with the men themselves. The native American seems to resent being "cabined, cribbed, confined" by superior authority as inconsistent with American democratic ideals, and, first-class fighting man that he is, does not care to serve long in time of peace. The

Leavenworth *Times* in commenting on the desertions in the navy is inclined to accept as good the idea of Rear Admiral Converse, which is that each ship shall have a particular home port, from which the larger part of its crew is to be recruited, and that such ship shall return once or twice a year to this port, the *Times* believing that homesickness is the cause of most of the desertions. Hence it feels that the recruiting of the navy from the Western States is not replete with wisdom. But we must say that a return of our ships to a port once or twice a year is absolutely impossible, and we believe that just as good men come to the navy from the West as from the East, and in the army our experience is that the Western boys make good soldiers.

The American idea that each individual is a sovereign, is supposedly subversive to what is usually understood as discipline. And it affects not only ourselves, but we find the same thing in Canada. *Harper's Weekly* for May 20, 1905, has an editorial as follows:

"Halifax reports a practical failure of the attempt to garrison the fortifications at Halifax and Esquimault with Canadian troops. The plan was to send the Imperial troops home and make the Canadians responsible for their own defense, but it seems that the Dominion cannot enlist the necessary men. Recruiting stations have been opened in the principal cities, but only about one hundred men have been enlisted. Inducements have been offered to young Englishmen to enlist in the Canadian army, but there have been few responses. The upshot is that, for the present at least, the royal garrisons will have to stay, and the Canadian government will contribute a large proportion of the money needed for their maintenance. This reluctance of Canadians to enlist seems to be of a piece with the reluctance of our citizens to enlist in the navy, and with the disposition of an unduly large proportion of those who have enlisted either in the navy or in the army to desert. Military service in the ranks seems not to commend itself very heartily to Americans on either side of our Northern border. Perhaps republican freedom makes men more impatient of military discipline in time of peace, or possibly the opportunities in civil life are too inviting for 'the service' to compete with."

So our papers think there are two reasons for desertions, one the aversion of the freeborn American to discipline, the other the superior advantages of civil life.

As for the second reason, people that never go deeply into matters, consider the opportunities of civil life so superior to those held out by enlistment that a man will take the latter only as a last resort. Considerations such as traveling round the world (which could not otherwise be dreamed of) are entirely lost sight of at the thought of only thirteen dollars per month. Old age retirement, pensions in the case of physical injury or incapacity, are never thought of while comparing life in the service with that outside. But even without these superior advantages, had we the time we believe we could convince a reasonable man that the American soldier is as well fed, clothed and taken care of as the average civilian at seventy-five dollars per month. However, this reason, that of superior advantages, should be a deterrent to enlistment and not a cause for desertion. The average deserter does not think of bettering his condition by desertion, and he is of such caliber that it is doubtful if he does. It is a safe bet that a deserter is as useless a citizen as he was a soldier. So we must look for the reason for desertions in the first of the above cited reasons, viz: the aversion of the American mind to discipline.

It is true that the American spirit is restive under restraint or discipline, and from some view points that is one defect of our civilization. This is the spirit that leads to mob violence, not a particularly creditable feature of Americanism. But speaking from our own experience, discipline, as it is generally exerted throughout the army, can injure no man who makes up his mind to do his duty. The iron power is there and must be used when necessary. But the self-respecting American soldier, who has proper ideas of duty, will never be found complaining about the restraints of discipline. Moreover, if it is true that the average citizen is restive under army or navy discipline in time of peace, what are we to expect in time of war? Is he such a chameleon creature that he can change his character to suit the particular occasion? Certainly not, or there would have been

no trouble in peace times. When in time of war it becomes absolutely necessary to bind all to the mind of one person, where is the training that will cause this without friction if it is not gotten in time of peace? Is one who cannot take little knocks now and then (certainly a good thing to shatter the absurd American egoism that we find in many people) going to tamely submit when ordinary peace times are at an end and rapid and decisive action and unhesitating obedience are required? We think not. One great trouble is that the average American does not understand what discipline means. To our mind it is synonymous with loyalty. If we can take the American, and in making him a soldier, inculcate ideas of loyalty which his early education does not, we shall have a soldier that will never desert, but will always be a credit to himself and a reliable man when called into action. This can be done, and is being done daily, but a small number get in that cannot realize the necessity of submitting to one mind. A few others get in that are too nomadic by nature to settle upon anything for three minutes at a time, and from these small numbers come all the desertions.

The proper American makes as good a soldier as does a German or a Russian. And he does not desert. In ninety-nine cases of desertion out of a hundred the fault is in the man, not in the officer, not in the system, not in the discipline. This being so, a preventative should be adopted that would be commensurate with the offense. It is absurd to think that one can enter the service to-day, desert to-morrow, be speedily caught and convicted, serve his eighteen months and then get out of the service nearly a year and a half sooner than he would have by serving his time faithfully. Make the punishment heavier, hunt down the criminal without fail, and desertions will stop. The reason of the small number of desertions in the Philippine Islands is the certainty of being caught. In this connection the ablest editorial we have seen on the subject is from the New Orleans *Picayune*. We quote as follows: "The only remedy that it now seems possible to apply is to pursue deserters more relentlessly and punish them severely when caught. The public should be educated to look upon desertion as a crime, which it really is, and the fact that a man has deserted should cause his friends to shun him as unworthy of their respect and confidence."

This is the whole thing in a nut shell. So long as our people look upon desertion as an inferior crime, or no crime at all, we must continue to have desertions. We believe at one time in the history of our country the deserter vote meant a great deal to certain high officials. Happily those times have passed, but it is idle to suppose that our people consider desertion in a very bad light. The task of educating the people as mentioned in the *Picayune* is no small one, but until a change does come over our people in this regard we see little hope of better conditions.

FRIENDS OF THE HORSE.

It is with pleasure that we notice many of our leading papers taking up the question of the treatment of the horse. *The Outlook* for May 13, 1905, has a page and a half by the clever *Spectator* on the cruel overdraw check. Nothing too strong can be said about this instrument of torture, and we are pleased to see papers of such worth as *The Outlook* on the right side. Even *Vogue* has plenty of space to devote some columns each issue lately to the Society for the Prevention of Cruelty to Animals. Just at present the observations are taking a personal turn at the head of the society in New York, but it is under a sincere conviction that it is fighting a battle to increase the efficiency of the society.

Not a week ago we had the occasion in Kansas City, Mo., to recall the words of the *Spectator*. We found an old sorrel standing in the sun, with the implement known as an overdraw check holding the poor beast's head high over his withers. We recalled also the torture of Filipino ponies, trained to hold their heads high by tying them to the limbs of trees or rings high in a wall, the heads drawn up so tightly as almost to lift the front quarters off the ground. To see a similar torture in our own country inclines us to doubt our vaunted superiority. Of course, in the case that came under our ob-

servation in Kansas City, the overdraw did possibly do one thing. The poor horse was so far over in front that the check might be considered as a means of holding him up; that is, if we believe with those scientists that argue that a man can raise himself from the ground by pulling hard enough on his boot straps. It was difficult for us to keep our hands from the miserable check, but had we interfered we should probably have only made it worse for the horse, such owners usually taking out on the horse the spleen they feel toward interferers.

In this matter of cruelty towards horses we always hark back to that betenoir of it all, docking. And we must say that it was with great surprise that we read an editorial in *The Journal of Civilization* (*Harper's Weekly*), April 22d, where it was stated that there was doubtless enough horse sense at Albany to prevent the passage of a bill that required all docked horses to be registered, and henceforth no other docked horses should be suffered to enter the State.

The Journal of Civilization goes on to explain its peculiar stand in that it considers this a country bill, interfering with and bothering the horse owners of cities. What if it does? Would it be nice of people to stand and see a man beat his wife? And if we can prevent cruelty of any kind by bills through Legislatures, it would seem humane to do so. We must say we were greatly perturbed by the *Weekly's* stand. We have been a constant reader of that journal for some years, and had come to consider it about the best of our papers, and one likely to take the right stand on most questions. But we certainly do not agree with it in this case; and when we see any chance whatever to ameliorate the condition of our dumb animals, we wish to take the chance.

The horse is a great friend of man. Why can we not be a good friend to him?

We understand, of course, that, like the Chinese woman's foot, it is all a question of style. And when we see the present tendency of the shoes on sale for American women to-day, heels it seems three inches high, we believe we are rapidly approaching the Celestial in that regard. Moreover, while penning this article we are, on a hot June day, wearing what

is supposed to be a rolling collar, and it consists of some four pieces of khaki two inches or so high, wrapped tightly around our neck and held in place by two hooks and eyes. A more uncomfortable collar is not within our imagination, unless one could be devised in some ingenious way with a combination overdraw check. And if we treat ourselves so, what are we to expect in our treatment of dumb animals? Where is the person that can hold out to us any hope?

MEMBERSHIP OF THE UNITED STATES CAVALRY ASSOCIATION.

It is the intention to correct this list with every issue. If any errors are noted it will be conferring a favor if you will call attention to them.

The Association is anxious to increase its membership and in its efforts to do this all the members can give their assistance. If you know of any prospective members or subscribers, or any person who might be interested in the JOURNAL, the Council will be glad to have the address so that a copy of the JOURNAL may be mailed.

ALPHABETICAL LIST OF MEMBERS.

Abbott, Jas. E., 1 lt. 6 cav., Fort Keogh, Mont.
Adams, Sterling P., capt. 14 cav., Manila.
Albright, F. H., capt. 25 inf., Lafayette, Ind.
Aleshire, J. B., maj. Q. M., Washington, D. C.
Allen, Chas. J., brig. gen. ret., 1521 K. St., nw., Washington, D. C.
Allen, Henry T., brig. gen. Phil. Constabulary, Manila, P. I.
Anderson, Cooper, maj., Telluride, Col.
Anderson, E., capt. 7 cav., Manila, P. I.
Anderson, E. D., capt. 12 cav., Ft. Oglethorpe.
Anderson, Geo. S., col. 8 cav., Manila, P. I.
Andrews, H. M., maj. art., Ft. Leavenworth.
Andrews, L. C., capt. 15 cav., West Point.
Andrus, E. P., maj. 3 cav., Ft. Spelling, Minn.
Appleton, D., col., 436 5th ave., N. Y.
Armstrong, F. ., capt. 9 cav., Ft. Riley, Kan.
Armstrong, W. H., 2 lt. P. R., Cayey, P. R.
Arnold, Fred. T., capt. 4 cav., Ft. Walla Walla, Wash.
Arnold, Percy W., capt. 7 cav., Manila, P. I.
Arnold, Sam'l B., capt. 1 cav., Ft. Clark, Texas.
Augur, Colon, capt. ret., 1217 Church st., Evanston, Ill.
Augur, J. A., col. 10 cav., Ft. Robinson, Neb.
Austin, Wm. A., 1 lt. 4 cav., Ft. Walla Walla.
Averill, Nathan K., capt. 7 cav., Manila, P. I.
Babcock, C. S., capt. 1 cav., Ft. Clark, Texas.
Babcock, J. E., brig. gen. ret., Ballston Spa, Saratoga Co., N. Y.
Babcock, Walter C., capt. 13 cav., Ft. Riley.
Bach, C. A., 1 lt. 7 cav., Manila, P. I.
Baer, Joseph A., 1 lt. 6 cav., West Point.
Bailey, Geo. F., 1 lt. 2 cav., Manila, P. I.
Bailey, Harry L., maj. 2 inf., Ft. Logan, Col.
Baird, Geo. H., 2 lt. 11 cav., Ft. Riley, Kas.
Baird, Wm., capt. ret., State House, Annapolis, Md.
Baldwin, Frank D., brig. gen., Oklahoma City, Okla.
Ball, Louis E., 1 lt. 13 cav., Ft. Myer, Va.
Ballin, Alfred, lt. Phil. scouts, care mil. sec'y office, Washington, D. C.
Bamberger, R. S., 2 lt. 7 cav., Manila, P. I.
Banister, Wm. R., maj. M. D., Jefferson Bks, Mo.
Barpar, B. L., lt. col., Columbus, Ohio.
Barker, C. R., lt., Anniston, Ala.
Barnard, J. H., 2 lt. 5 cav., Ft. Huachuca, Ariz.
Barnum, M. H., capt. 8 cav., Manila, P. I.
Barriger, Wm. S., 2 lt. 15 cav., Ft. Ethan Allen.
Barry, John A., 2 lt. 2 cav., Manila, P. I.
Barry, Thomas H., brig. gen., care American Embassy, St. Petersburg, Russia.
Barton, F. A., capt. 3 cav., Cornell Univer., Ithaca, N. Y.
Barton, R. M., 1 lt. 5 cav., Ft. Huachuca, Ariz.
Bates, W. E., lt., 333-337 Walnut st., Philadelphia.
Beach, F. H., capt. 7 cav., Manila, P. I.
Beach, Wm. D., maj. 10 cav., Lemon Bldg., Washington.
Beck, Wm. B., capt. ret., River Drive, Passaic N. J.
Bell, Jas. M., brig. gen. ret., 1071 Ocean Grove, New London, Conn.
Bell, J. F., brig. gen., Ft. Leavenworth.
Bell, O. W., capt. 6 cav., care transport Sumner, N. Y.
Bell, Sherman M., adj. gen., Denver, Col.
Bell, W. H., jr., 2 lt. 1 cav., Ft. Clark, Texas.
Bellinger, J. B., maj. Q. M., Washington.
Benjamin, J. A., 1 lt. 3 cav., Ft. Snelling, Minn.
Benson, H. C., capt. 4 cav., Wawona, Cal.
Bernard, T. P., 2 lt. 3 cav., Ft. Assininiboine.
Biddle, D. H., 1 lt. 6 cav., Ft. Meade, S. Dak.
Biddle, James, brig. gen. ret., Ft. Meade, S. D.
Biddle, John, maj. eng., 1517 L st. N. W., Washington, D. C.
Biegler, George W., 1 lt. 12 cav., Ft. Oglethorpe.
Bigelow, John jr., maj. ret., The Eastgate, Back Bay, Boston, Mass.
Bigelow, M. O., capt. 8 cav., West Point, N. Y.
Bishop, H. S., maj. 5 cav., Ft. Apache, Ariz.
Bixby, W. H., lt. col. eng., Room 508 Federal Bldg, Chicago.
Bliss, Tasker H., brig. gen., 22 Jackson Place, Washington, D. C.
Blocksom, A. P., maj. Insp. Gen. Office, Washington, D. C.
Blunt, S. E., lt. col. O. D., Rock Island Arsenal.
Boice, Chas. H., 1 lt. 7 cav., Manila, P. I.
Bomus, P. S., lt. col. 6 cav., Ft. Keogh, Mont.
Boniface, J. J., capt. 2 cav., care mil. sec'y, Washington, D. C.
Booth, Ewing E., capt. 7 cav., Ft. Leavenworth.
Boughton, D. H., maj. 11 cav., Ft. Leavenworth.
Bowdish, Myron B., 2 lt. 10 cav., Ft. Washakie.
Bowen, W. H. C., lt. col. 13 inf., Ft. McDowell, Cal.
Bowie, H., 1 lt. 9 cav., Ft. Riley, Kas.
Bowman, George T., 1 lt. 15 cav., Ft. Ethan Allen, Vt.
Boyd, Carl, 2 lt. 3 cav., Ft. Yellowstone, Wyo.
Boyd, Charles T., (capt. 10 cav.) maj. Phil. Scouts, Manila, P. I.
Braden, C., 1 lt. ret., Highland Falls, N. Y.
Brainard, D. L., maj. C. S., Army bldg., N. Y. City.
Brambila, R. M., capt. 27 inf., Univer. of Nev., Reno, Nev.
Breck, Samuel, brig. gen. ret., Pilgrim Farm, Eddyville, Middleboro, Mass.
Brees, H. J., capt. 1 cav., Ft. Leavenworth.
Bresler, Arthur L., brig. gen. and consul gen., Detroit, Mich.
Brett, Lloyd M., maj. 1 cav., 1340 31st st. Washington, D. C.
Briand, C., 1 lt. 15 cav., Ft. Ethan Allen, Vt.
Bristol, Matt C., 2 lt. 13 cav., Ft. Myer, Va.
Brown, L. T., lt. col., 33d & Smallwood sts., Pittsburg, Pa.
Brown, L. G., 2 lt. 12 cav., Ft. Oglethorpe, Ga.
Brown, Oscar J., maj. 1 cav., Ft. Clark, Texas.
Brown, R. A., capt. 4 cav., Presidio, S. F., Cal.
Brown, William C., maj. 3 cav., Ft. Assininiboine, Mont.
Bryan, R. B., capt. 5 cav., 1010 S. 3d ave., Nashville, Tenn.
Bryant, W. A., capt., Montclair, N. J.
Buchan, F. E., 1 lt. 3 cav., Fort Leavenworth.
Buchanan, E. A., 2 lt. 9 cav., Ft. Riley, Kan.
Bull, Henry T., 2 lt. 13 cav., Ft. Myer, Va.
Burkhardt, S., jr., capt. 19 inf., Manila, P. I.
Burnett, Chas., 2 lt. 15 cav., Ft. Myer, Va.
Burnett, George R., 1 lt. ret., Iowa City, Ia.
Burroughs, James M., 1 lt. 12 cav., Manila, P. I.

Bush, F. N., lt., Peoria, Ill.
Butler, James S., 1 lt. sig. corps, Manila, P. I.
Butler, Matt C., jr., capt. 7 cav., Manila, P. I.
Butler, Rodman, 2 lt. 6 cav., Ft. Keogh, Mont.
Byram, Geo. L., capt. 6 cav., Ft. Meade, S. Dak.
Cabaniss, A. A., capt. 24 inf., Ft. Missoula.
Cable, Wm. A., lt., 103 W 56th st., New York.
Cabell, De Rosey C., capt. 1 cav., gen. hosp., Presidio, San Francisco, Cal.
Caldwell, R. C., 1 lt. 7 cav., Manila, P. I.
Calvert, E., 1 lt. 9 cav., Ft. Leavenworth.
Cameron, Geo. H., capt. 4 cav., Ft. Riley.
Camp, Beauford R., 2 lt. 9 cav., Jefferson Bks.
Capron, Grant A., capt. D. M. I., Dixon, Ill.
Card, C. S., lt., 1139 Clarkson st., Denver, Col.
Carlton, C. H., brig. gen. ret., Met. Club, Washington.
Carpenter, E., capt. art., Ft. Totten, N. Y.
Carpenter, L. H., brig. gen. ret., The Moorland, Gloucester, Mass.
Carr, Camillo C. C., brig. gen., 1124 20th st. N. W., St. Paul, Minn.
Carr, Eugene A., brig. gen. ret., 1724 20th st. nw., Washington, D. C.
Carroll, Henry, brig. gen. ret., 116 Portland Blvd., Colorado Springs.
Carson, John M., jr., maj. Q. M. D., army and navy gen. hosp., Hot Springs, Ark.
Carson, L. S., 1 lt. 8 cav., Manila, P. I.
Carson, T. G., capt. 10 cav., Ft. Washakie, Wyo.
Carter, Wm. H., brig. gen., Manila, P. I.
Cartmell, N. M., 1 lt. 10 cav., Ft. Robinson, Neb.
Case, Frank L., 1 lt. 12 cav., Ft. Oglethorpe, Ga.
Cassidy, H. C., capt., 2505 Calumet ave., Chicago.
Casteel, D. T. E., 1 lt. 7 cav., Manila, P. I.
Cathro, Thos. E., 2 lt. 13 cav., Ft. Riley, Kan.
Cavenaugh, H. La T., capt. 10 cav., Ft. Robinson, Neb.
Chaffee, Adna R., lt. gen., Washington, D. C.
Chapman, L. A. L., 1 lt. 1 cav., Ft. Leavenworth.
Chase, Geo. F., lt. col. 12 cav., Ft. Oglethorpe.
Chase, John, brig. gen., Denver, Col.
Cheever, B. H., maj. 6 cav., Ft. Meade, S. D.
Chitty, Wm. D., capt. 4 cav., Columbia, Mo.
Churchill, C. Robert, capt., 407 Morris Bldg, New Orleans.
Clark, Chas. H., maj. O. D., Springfield, Mass.
Clark, H. B., capt. art. corps, Ft. Leavenworth.
Clark, Will H., 918 Marquette Bldg, Chicago.
Clark, Wm. F., capt. 2 cav., Manila, P. I.
Clayton, P., jr., capt. 11 cav., Ft. Des Moines.
Cleveland, J. Wray, 148 Broadway, N. Y.
Clopton, Wm. H., jr., 1 lt. 14 cav., Manila, P. I.
Cocke, J., 2 lt. 11 cav., Ft. Des Moines, Ia.
Coffey, Edgar S., 1 lt. 2 cav., Manila, P. I.
Cole, C. W., 1 lt. 9 cav., Ft. Leavenworth.
Cole, Geo. M., gen., Hartford, Coun.
Cole, James A., capt. 6 cav., Ft. Meade, S. Dak.
Coleman, S., 1 lt. 9 cav., Ft. Leavenworth.
Collins, R. L., 2 lt. 2 cav., Manila, P. I.
Collins, Thos. D., maj., Gainesville, Tex.
Comly, George B., 1 lt. 3 cav., West Point.
Conklin, John jr., capt. art., Ft. Ethan Allen.
Connell, W. M., 1 lt. 7 cav., Manila, P. I.
Conrad, C. H., capt. 3 cav., 18 w. 107th st., New York.
Conrad, Julius T., capt. 3 cav., Chester, Pa.
Converse, G. L., capt. ret., 23 E. State st., Columbus, Ohio.
Cooley, W. M., 2 lt. 5 cav., Ft. Wingate, N. M.
Cooper, C. L., brig. gen. ret., State Capitol, Denver, Col.
Cootes, Harry N., 1 lt. 12 cav., Ft. Oglethorpe.
Coppock, E. R., 2 lt. 3 cav., Ft. Assiniboine.
Corcoran, Thos. M., capt. 13 cav., Ft. Myer, Va.
Cornell, W. A., 1 lt. 10 cav., Ft. Robinson, Neb.
Cornish, L. W., capt. 9 cav., Jefferson Bks., Mo.
Coughlan, T. M., 1 lt. 2 cav., Manila, P. I.
Counselman, W., capt., 315 Rush st., Chicago.
Cowell, T. R., capt., Parkersburg, W. Va.
Cowin, W. B., 1 lt. 3 cav., Star Bldg, St. Louis.
Cowles, W. H., 2 lt. 4 cav., Ft. Walla Walla.
Cox, Edwin L., 2 lt. 9 cav., Jefferson Bks, Mo.
Coxe, A. B., 1 lt. 8 cav., Manila, P. I.
Craig, H., jr., 1917 Chestnut st., Philadelphia.
Craig, J. W., capt. 12 cav., Ft. Oglethorpe, Ga.
Craig, M., capt. 1 cav., Ft. Leavenworth.
Craighill, Wm. E., maj. eng., 166 Gov. st., Mobile, Ala.
Crane, Chas. J., lt. col. 8 inf., San Juan, P. R.
Craycroft, Wm. T., 1 lt. ret., Dallas, Texas.
Cress, Geo. O., capt. 4 cav., Orchard Lake, Mich.
Crimmins, M. L., 1 lt. 19 inf., Ft. Leavenworth.
Croft, E., capt. 19 inf., Manila, P. I.
Crosby, Herbert B., capt. 11 cav., Manila, P. I.
Crowder, E. H., col. J. A. G., 10th and Paseo, Kansas City, Mo.
Crozier, Wm., brig. gen., Washington, D. C.
Cruse, Thos., maj. Q. M. dept., St. Louis.
Cullen, D., 1 lt. 3 cav., Ft. Assininiboine, Mont.
Culver, C. C., 1 lt. 3 cav., Ft. Assininiboine, Mont.
Cunningham, T. H., 2 lt. 8 cav., Manila, P. I.
Curry, W. L., capt., Columbus, O.
Cusack, Joseph E., capt. 12 cav., Manila, P. I.
Dade, A. L., capt. 13 cav., Manila, P. I.
Dallam, S. F., capt. 5 cav., Ft. Huachuca, Ariz.
Dalton, H. F., capt. 16 inf., Ft. Leavenworth.
Danforth, C. H., 1 lt. 17 inf., San Francisco.
Davidson, A. H., 1 lt. 13 cav., Ft. Myer, Va.
Davis, B. O., 1 lt. 10 cav., Ft. Robinson, Neb.
Davis, C. O., capt., Corsicana, Tex.
Davis, E., 1 lt. 11 cav., Ft. Des Moines, Iowa.
Davis, F. E., 2 lt. 9 cav., Manila, P. I.
Davis, G. B., brig. gen., Washington, D. C.
Davis, Ira D., capt., Houston, Tex.
Davis, M. F., capt. 10 cav., Ft. Leavenworth.
Davis, Norman H., 2 lt. 14 cav., Manila, P. I.
Davis, T. F., lt. col. 30 inf., mil. sec. dept., Denver, Colo.
Davis, W., brig. gen. ret., The Revere, Atlantic City, N. J.
Day, Clarence R., capt. 5 cav., Ft. Huachuca, Ariz.
Dean, W., capt. 11 cav., Ft. Ethan Allen, Vt.
Degen, J. A., 1 lt. 12 cav., Ft. Oglethorpe, Ga.
Deitrick, L. L., 1 lt. 13 cav., Ft. Riley, Kas.
Dickman, J. T., capt. 5 cav., War Dept., Washington, D. C.
Disque, B. P., 1 lt. 3 cav., Ft. Leavenworth.
Dixon, V. D., 1 lt. 5 cav., Whipple Bks., Ariz.
Dockery, A. B., lt. 5 cav., Ft. Wingate, N. M.
Dodd, G. A., lt. col. 10 cav., 1316 Filbert st., Philadelphia.
Dodge, C. C., gen., 10 E 76 St., New York.
Dodge, Francis S., brig. gen., Washington, D. C.
Dodge, T. A., lt. col. ret., Room 517, 253 Broadway, New York City.
Dolan, T. J., capt., 2021 Walnut st., Philadelphia.
Donaldson, T. Q., capt. 5 cav., Manila, P. I.
Donovan, A. E., vetn. art., Vancouver Bks.
Dorey, B. H., 1 lt. 4 cav., Presidio, Monterey, Cal.
Dorst, J. H., col. 3 cav., Ft. Assininiboine, Mont.
Dougherty, C. A., 2 lt. 13 cav., Manila, P. I.
Drake, C. B., capt. 14 cav., Manila, P. I.
Dudley, Clark D., 1 lt. 14 cav., Manila, P. I.
Duff, Robt. J., capt. 9 cav., Manila, P. I.
Ducher, H. M., vetn., Peekskill, N. Y.
Duvall, W. P., maj. art., Washington, D. C.
Dyer, Ed. H., maj., Burlington, Vt.
Early, Orson L., 2 lt. 8 cav., Manila, P. I.
Eaton, W. R., lt., box 952, Denver, Col.
Edgerly, Winfield S., col. 2 cav., Manila, P. I.
Edmunds, C. W., lt., 425 Walnut st., Philadelphia.
Edwards, Frank A., maj. 4 cav., Rome, Italy.
Edwards, Frank B., 1 lt. art., Ft. Hamilton.
Edwards, Frank B., 1 lt. 4 cav., St. Paul, Minn.
Edwards, W. W., 2 lt. 10 cav., Ft. Robinson, Neb.
Elliott, S. H., capt. 11 cav., Ft. Des Moines, Ia.
Ellis, R. B., 1 lt. 14 cav., Manila.
Eltinge, LeRoy, capt. 15 cav., Ft. Ethan Allen.
Ely, E. J., 2 lt. 15 cav., Ft. Ethan Allen, Vt.
Ely, H. E., capt. 26 inf., Ft. Leavenworth.
Engel, E., 2 lt. 9 cav., Ft. Leavenworth, Kan.
English, E. G., 2 lt. 5 cav., Ft. Apache, Ariz.
Enos, Copley, 2 lt. 1 cav., Ft. Sam Houston, Texas.
Enslow, R. S., lt. 10 cav., Ft. Washakie, Wyo.

Erwin, J. B., maj. 9 cav., Ft. Leavenworth.
Estes, Geo. H., jr., capt. 20 inf., Manila, P. I.
Esty, Thos. B., 2 lt. 9 cav., Jefferson Bks.
Easton, H. L., lt., 1410 Jackson ave., New Orleans, La.
Evans, E. W., capt. 8 cav., Manila, P. I.
Fair, John S., 1 lt. 9 cav., Jefferson Bks, Mo.
Farber, Chas. W., capt. 8 cav., Manila, P. I.
Farmer, Chas. C., jr., 1 lt. 10 cav., Ft. Leavenworth.
Farnsworth, Chas. S., capt. 7 inf., Manila, P. I.
Farnum, F. H., 2 lt. 11 inf., Ft. D. A. Russell.
Fechét, Jas. E., 1 lt. 9 cav., Jefferson Bks, Mo.
Fenton, C. W., capt. paymr (cav.), Manila.
Fisher, Ronald E., 2 lt. 14 cav., Manila.
Fitch, Roger S., 1 lt. 1 cav., Ft. Leavenworth.
Fleming, L. J., capt. Q. M., San Antonio, Tex.
Fleming, R. J., capt. 10 cav., Ft. Robinson.
Foerster, L., 1 lt. 5 cav., Ft. Huachuca, Ariz.
Foltz, Fred S., capt. 2 cav., Manila, P. I.
Fonda, Ferd. W., 1 lt. 10 cav., Ft. Mackenzie.
Foote, S. M., capt. art., Ft. Myer, Va.
Forbush, W. C., col. ret., Castle Inn, Niagara Sq., Buffalo, N. Y.
Foreman, Milton J., maj., 3412 Vernon Ave., Chicago.
Forsyth, Jas. W., maj. gen. ret., Columbus Club, Columbus, O.
Forsyth, Wm. W., capt. 6 cav., Ft. Keogh, Mont.
Fortescue, G. R., 1 lt. 10 cav., care Brown, Shipley & Co., London, Eng.
Foster, A. B., capt. 19 inf., Vancouver Bks.
Foster, Fred. W., maj. 5 cav., Whipple Bks, Ariz.
Foster, Leo F., capt. art., Ft. Fremont, S. C.
Fountain, S. W., brig. gen., Devon, Chester Co., Pa.
Foy, Robert C., 1 lt. 4 cav., West Point, N. Y.
Fraser, Walter, vet. 13 cav., Ft. Myer, Va.
Freeman, H. B., brig. gen. ret., Leavenworth.
Freeman, S. D., capt. 10 cav., Ft. Robinson, Neb.
Fulle, C. J., capt., Salinas, Cal.
Fuller, A. M., capt. 9 cav., 408½ W. Depot st., Knoxville, Tenn.
Fuller, Ezra B., maj. ret., Columbia, S. C.
Funston, Fred, brig. gen., San Francisco.
Furlong, J. W., capt. 6 cav., Ft. Meade, S. D.
Galbraith, J. G., maj. 11 cav., Des Moines, Ia.
Gale, George H. G., maj. l. g. d., Governor's Island, N. Y.
Gardenhire, W. C., 1 lt. 4 cav., Ft. Walla Walla.
Gardner, Edwin F., lt. col. ret., Holliston, Mass.
Gardner, John H., capt. 2 cav., Manila, P. I.
Garity, George, 1 lt. 2 cav., 32 Fairview st., Lowell, Mass.
Garrard, Joseph, lt. col. 14 cav., Manila, P. I.
Gaston, Joseph A., maj. 1 cav., Ft. Sam Houston, Texas.
Gatley, Geo. G., capt. art., Ft. Sill, Okla.
Gaujot, Julien E., 1 lt. 11 cav., Ft. Des Moines, Iowa.
Gibbins, H., 1 lt. 9 cav., Ft. Leavenworth.
Gilkeson, Alvan C., 1 lt. 4 cav., Wawona, Cal.
Glasgow, Wm. J., capt. 13 cav., Governor's Island, N. Y.
Gleaves, S. R., 1 lt. 1 cav., Ft. Clark, Tex.
Godfrey, E. S., col. 9 cav., Ft. Riley, Kan.
Godson, W. F. H., 1 lt. 15 cav., Ft. Robinson.
Godwin, E. A., lt. col. 9 cav., Jefferson Bks.
Going, R. B., 1 lt. 15 cav., Ft. Ethan Allen.
Goldman, H. J., maj. 12 cav., Ft. Oglethorpe.
Goodale, Geo. S., capt. 25 inf., Madison Bks, N. Y.
Goode, George W., capt. 1 cav., Ft. Clark, Tex.
Goodin, J. A., capt. 7 inf., Manila, P. I.
Goodspeed, Nelson A., 2 lt. 5 cav., Jefferson Bks, Mo.
Gordon, Geo. A., col., Savannah, Ga.
Gordon, Wm. W., 2 lt. 2 cav., Manila, P. I.
Gould, J. H., vet. 11 cav., Ft. Riley, Kan.
Graham, Alden M., 2 lt. 1 cav., Ft. Clark, Tex.
Granger, R. S., capt. art., Ft. Mansfield, R. I.
Grant, Frederick D., brig. gen., Governor's Island, New York.
Grant, Walter S., 1 lt. 8 cav., St. Paul, Minn.
Gray, Alonzo, capt. 14 cav., Manila, P. I.
Greely, Adolphus W., brig. gen., Washington, D. C.
Gresham, John C., maj. 15 cav., Ft. Ethan Allen, Vt.
Grierson, B. H., brig. gen. ret., Jacksonville, Ill.
Grierson, C. H., capt. 10 cav., Ft. Robinson.
Griffith, F. D., jr., 2 lt. 6 cav., Ft. Meade, S. Dak.
Griggs, Everett G., capt., Tacoma, Wash.
Groome, J. C., capt., 1222 Walnut st., Philadelphia, Pa.
Gross, F. W., col., 142 Logan ave., Denver, Col.
Grout, Paul, 2 lt., 231 Pacific st., Brooklyn, N. Y.
Grove, W. R., capt. sub. dept., Manila, P. I.
Grunert, G., 2 lt. 11 cav., Ft. Des Moines.
Grutzman, W. K., vet. 15 cav., Ft. Ethan Allen, Vt.
Guest, John, capt., ret., 1734 K st., N. W., Washington, D. C.
Guilfoyle, J. F., maj. mil. sec. dept., Manila.
Haight, C. S., capt. 5 cav., Ft. Leavenworth.
Haldeman, Horace L., lt. col., Real Estate Bldg, Philadelphia, Pa.
Hall, C. G., capt. 5 cav., Whiterocks, Utah.
Hall, W. P., brig. gen., Washington, D. C.
Hammond, Andrew G., maj. 4 cav., Ft. Assiniboine, Mont.
Hammond, C. L., 4627 Greenwood ave., Chicago.
Hanna, M. E., capt. 3 cav., Ft. Assiniboine, Mont.
Harbord, James G., col. Phil. Constab., Manila, P. I.
Hardeman, L., capt. 11 cav., Ft. Des Moines, Ia.
Hardie, Francis H., maj. 14 cav., Manila, P. I.
Hardin, E. F., maj. 7 inf., Manila, P. I.
Harper, Roy B., capt. 3 cav., Ft. Assiniboine, Mont.
Harris, E. R., 2 lt. 11 cav., Ft. Des Moines, Ia.
Harris, F. W., capt. 4 cav., Tacoma, Wash.
Harris, Moses, maj. ret., Life bldg., N. Y. City.
Harrison, Ralph, capt. c. s. (cav.), Manila, P. I.
Hart, A. C., 1 lt. 10 cav., Ft. Robinson, Nebr.
Hartman, J. D. L., capt. 1 cav., Ft. Leavenworth.
Harvey, Charles G., 1 lt. 2 cav., Manila, P. I.
Haskell, W. S., 2 lt. 9 cav., Ft. Leavenworth.
Hasson, John P., 1 lt. 6 cav., Ft. Meade, S. D.
Hathaway, C. E., 2 lt. 9 cav., Ft. Riley, Kan.
Hawkins, Clyde E., capt. 2 cav., Manila, P. I.
Hawkins, H. S., capt. sub. dept., Denver, Colo.
Hay, W. H., capt. 10 cav., Ft. Robinson, Nebr.
Hayden, John L., capt. art., Manila, P. I.
Hayden, Ralph S., 2 lt. 7 cav., Manila, P. I.
Hayes, E. M., brig. gen. ret., The Chapin, Washington.
Hayne, Paul T., jr., 1 lt. 14 cav., Manila, P. I.
Hazzard, Oliver P. M., 1 lt. 2 cav., Manila, P. I.
Hazzard, Russell T., 1 lt. 1 cav., Ft. Clark, Tex.
Heard, J. W., capt. 3 cav., Ft. Assiniboine.
Heaton, Wilson G., 1 lt. 13 cav., Ft. Myer, Va.
Hedekin, C. A., capt. 3 cav., Ft. Snelling, Minn.
Heiberg, E. R., capt. 6 cav., Ft. Meade, S. Dak.
Heidt, Grayson V., 1 lt. 14 cav., Manila, P. I.
Heth, O. L., lt. col. ret., The Glaslyn, Park Place, Atlantic City, N. J.
Heintzelman, S., 1 lt. 6 cav., Ft. Leavenworth.
Hemphill, J. E., 1 lt. sig. corps, Nome, Alaska.
Hennessey, P. J., 2 lt. 5 cav., Ft. Huachuca.
Hennessy, F. B., lt. art. corps, Ft. Riley, Kan.
Henry, Guy V., capt. 12 cav., Ft. Oglethorpe.
Henry, J. B., jr., 2 lt. 4 cav., Presidio, S. F., Cal.
Herman, Fred J., 1 lt. 9 cav., Ft. Riley, Kan.
Hero, W. S., lt., 622 Commercial Place, New Orleans, La.
Herron, Joseph S., capt. 2 cav., Manila, P. I.
Hershler, F. W., 1 lt. 4 cav., Presidio, S. F., Cal.
Hickey, J. B., maj. 11 cav. mil. sec. office, Washington.
Hickman, E. A., 1 lt. 1 cav., Lexington, Mo.
Hickok, H. R., capt. 15 cav., Ft. Ethan Allen.
Hilgard, M. R., 1 lt. 16 inf., Manila, P. I.

Hill, Wm. P., vetn., 12 cav., Ft. Oglethorpe, Ga.
Hill, Zeph T., maj., Denver, Col.
Hirsch, Harry J., capt. 20 inf., Manila, P. I.
Hodges, H. L., 2 lt. 1 cav., Ft. Clark, Texas.
Hodgson, F. G., maj. Q. M. D., Vancouver Bks.
Hoff, J. V. R., col. M. D., care Amer. Emb., St. Petersburg, Russia.
Holabird, S. B., brig. gen. ret., 1311 P st. N. W., Washington.
Holbrook, L. R., capt. 5 cav., Ft. Leavenworth.
Holbrook, W. A., capt. 5 cav., Whipple Bks, Ariz.
Holcomb, Freeborn P., lt. 14 cav., Manila, P. I.
Holliday, Milton G., 2 lt. 15 cav., Ft. Ethan Allen.
Hope, F. W., lt., Broad and Front sts., Red Bank, N. J.
Hopkins, A. T., lt., Watertown, S. D.
Hornbrook, J. J., capt. 12 cav., Ft. Oglethorpe, Ga.
Horton, W. E., capt. Q. M. D., Manila, P. I.
Hoyt, Chas. S., 2 lt. 5 cav., Ft. Apache, Ariz.
Howard, H. P., capt. 14 cav., Manila, P. I.
Howard, J. H., 2 lt. 9 cav., Jefferson Bks.
Howell, J. R., col., Bohemian Club, San Francisco.
Howze, R. L., capt. 6 cav., West Point, N. Y.
Hoyle, George S., maj. ret., 11 Temple Court, Atlanta, Ga.
Huggins, E. L., brig. gen. ret., Muskogee, I. T.
Hughes, J. B., capt. 4 cav., Wawona, Cal.
Hughes, Martin B., col. 1 cav., Ft. Clark, Tex.
Hume, John K., 2 lt. 14 cav., Manila, P. I.
Hunsaker, I. L., 2 lt. 3 cav., Ft. Snelling, Minn.
Hunt, Levi P., lt. col. 3 cav., Ft. Assiniboine, Mont.
Hunter, G. K., maj. 6 cav., Ft. Meade, S. Dak.
Huntt, Geo. G., col. ret., Carlisle, Pa.
Huston, James, 1 lt. 10 cav., Ft. Washakie, Wyo.
Hyde, A. P. S., 1 lt. art., Ft. Terry, N. Y.
Hyer, B. B., capt. 13 cav., Ft. Myer, Va.
Ingerton, W. H., capt., Amarillo, Tex.
Irons, J. A., lt. col. 14 inf., Vancouver Bks, Wash.
Jackson, Henry, brig. gen. ret., Leavenworth.
Jackson, R. F., 1 lt. 3 cav., U. S. Gen. Hosp., Presidio, San Francisco, Cal.
Jacobs, Douglas H., 1 lt. 12 cav., Gen. Hosp., Washington Bks.
Jeffers, S. L., 1 lt. ret., 311 W. 2d st., Little Rock, Ark.
Jenkins, J. M., capt. 5 cav., Ft. Grant, Ariz.
Jennings, T. H., 1 lt. 7 cav., Manila, P. I.
Jervey, E. P., jr., capt. 10 cav., San Francisco.
Jewell, Chas. H., vetn. 13 cav., Ft. Riley, Kan.
Johnson, A., capt. 13 inf., St. Peter, Minn.
Johnson, C. P., capt. 10 cav., Ft. Robinson, Neb.
Johnson, F. O., maj. 2 cav., Manila, P. I.
Johnson, F. C., 1 lt. 2 cav., Manila, P. I.
Johnson, H. B., 2 lt. 5 cav., Ft. Assiniboine.
Johnston, G., 1 lt. sig. corps, Manila, P. I.
Johnston, J. A., gen., 2111 Mass. ave., Washington, D. C.
Johnston, W. T., capt. 15 cav., Ft. Ethan Allen.
Jones, C. B., 271 S. Fourth st., Philadelphia.
Jones, F. M., 1 lt. 9 cav., Ft. Riley, Kan.
Jones, S. G., capt. 11 cav., Ft. Des Moines, Ia.
Jordan, H. B., 1 lt. O. D., Armory, Springfield, Mass.
Joyce, K. A., 2 lt. 6 cav., Ft. Leavenworth.
Jurich, A., jr., 2 lt. 4 cav., Wawona, Cal.
Karnes, Wm. L., 1 lt. 6 cav., Omaha, Neb.
Keller, Frank, 2 lt. 8 cav., Manila, P. I.
Kelly, Wm., capt. eng., Ft. Leavenworth.
Kelly, W., jr., capt. 9 cav., West Point, N. Y.
Kelly, William H., capt., 110 Glenway st., Dorchester, Mass.
Kendall, Henry P., maj. 12 cav., 1009 Franklin st., Portland, Oreg.
Kendall, Henry M., maj. ret., Soldiers' Home, Washington.
Kennington, Alfred E., capt. 7 cav., Manila.
Kerr, James T., lt. col. mil. sec. dept., Washington.
Kerr, J. B., col. 12 cav., Governor's Island, N. Y.
Kerth, Monroe C., capt. 28 inf., Madison Bks, N. Y.
Kerwin, A. R., capt. 13 inf., Alcatraz Island, Cal.
Ketcheson, J. C., Leavenworth, Kan.
Keyes, Allen C., 2 lt. 14 cav., Manila, P. I.
Keyes, E. A., 2 lt. 6 cav., Ft. Keogh, Mont.
Kilbourne, Louis H., 2 lt. 8 cav., Manila, P. I.
Kilian, Julius N., capt. sub. dept., 3d and Olive, St. Louis.
Kimball, Gordon N., 1 lt. 12 cav., Manila.
King, Albert A., 1 lt. 8 cav., Manila.
King, Charles, brig. gen., P. O. box 735, Milwaukee, Wis.
King, Ed L., capt. 2 cav., Ancon, Panama.
Kirkman, Hugh, 1 lt. 8 cav., Manila.
Kirkpatrick, George W., capt. 15 cav., Ft. Ethan Allen, Vt.
Kline, J., brig. gen. ret., The Angus, St. Paul, Minn.
Knight, J. T., maj. qm. dept., Philadelphia.
Knox, R. S., 1 lt. 24 inf., Ft. Missoula, Mont.
Knox, Thomas M., 1 lt. 4 cav., Ft. Walla Walla.
Koch, Stanley, 2 lt. 5 cav., Ft. Huachuca, Ariz.
Kochersperger, S. M., maj. Phil. Scouts, Manila.
Koehler, L. M., capt. 4 cav., Presidio, S. F., Cal.
Koester, F. J., capt. 15 cav., Ft. Ethan Allen.
Kramer, J. L., maj., Parkersburg, W. Va.
Kromer, L. B., 1 lt. 11 cav., West Point, N. Y.
Lacey, F. E., jr., capt. 1 inf., Ft. Wayne, Mich.
Lahm, F. P., 2 lt. 6 cav., West Point.
Lake, B. M., capt., Alcutt P. O., Denver.
Landis, J. F. R., capt. 1 cav., Ft. Clark, Tex.
Langdon, F. G., 1st lt. art., Ft. Miley, Cal.
Langhorne, G. T., capt. 11 cav., a. d. c. to Gen. Wood, Manila, P. I.
Lanza, C. H., capt. art. corps, Ft. Slocum, N. Y.
Leach, S. S., lt. col. eng., 1900 22d st., Washington.
Lear, B., jr., 1 lt. 15 cav., Ft. Ethan Allen, Vt.
Leary, E. M., capt. 11 cav., Ft. Riley, Kan.
Leiss, Thos. C., col. 14 cav., Manila, P. I.
Lechtman, C., col., Kansas City, Mo.
Lee, Fitzhugh, jr., 1 lt. 12 cav., Ft. Oglethorpe, Ga.
Lee, Geo. M., 1 lt. 7 cav., Manila, P. I.
Lee, J. M., brig. gen., San Antonio, Tex.
Lesher, R. W., 2 lt. 5 cav., care Mil. sec. Office, Washington.
Lewis, C. R., lt. 28 inf., Madison Bks, N. Y.
Lewis, J. H., 1 lt. 5 cav., Ft. Wingate, N. M.
Lewis, LeRoy D., 2 lt. 4 cav., Ft. Walla Walla.
Lewis, T. J., maj. 14 cav., 534 W. Jefferson st., Louisville, Ky.
Lincoln, James R., brig. gen., Ames, Iowa.
Lindsey, J. R., capt. 15 cav., Ft. Ethan Allen.
Lindsley, Elmer, capt. 1 cav., Ft. Clark, Tex.
Lininger, Clarence, 2 lt. 1 cav., Ft. Clark, Tex.
Lippincott, Aubrey, 1 lt. 14th cav., Manila, P. I.
Littebrant, W. T., capt. 12 cav., Ft. Oglethorpe, Ga.
Liverman, H. T., capt., Mansfield, La.
Livermore, R. L., capt. ret., 365 Lafayette st., Denver, Col.
Lochridge, P. D., capt. 13 cav., Ft. Meyer, Va.
Lockett, James, maj. 4 cav., Presidio, Monterey.
Lockwood, J. A., capt. ret., 530 5th ave., N. Y.
Logan, A. J., col., 119 3d ave., Pittsburg, Pa.
Lomax, L., lt., Telluride, Col.
Long, John D., 1 lt. 12 cav., Ft. Oglethorpe, Ga.
Longstreet, Jas., jr., 1 lt. 15 cav., Manila, P. I.
Lott, Abraham G., capt. 6 cav., Ft. Meade, S. D.
Loud, John S., lt. col. ret., 529 13 st., N. W., Washington, D. C.
Love, Moss L., 2 lt. 2 cav., Manila, P. I.
Love, Robt. R., 2 lt. 9 cav., Ft. Riley, Kan.
Lovell, Geo. E., 1 lt. 7 cav., Manila, P. I.
Lowe, A. W., maj., 1 Olive st., Lynn, Mass.
Lowe, Wilson, maj., Upper Alton, Ill.
Lowe, Wm. L., 1 lt. 11 cav., Manila, P. I.
Ludington, M. L., maj. gen. ret., Skaneateles, Onondago Co., N. Y.
Ludeke, E. C., lt., 240 Seminary ave., Chicago.

Luhn, Wm. L., 1 lt. 11 cav., Jefferson Bks., Mo.
Lusk, Wm. V., vetn. 2 cav, Manila, P. I.
Lyon, C. A., col., Sherman, Texas.
MacAndrews, Jos. R., 1 lt. 1 cav., Ft. Sam Houston, Tex.
MacArthur, Arthur, maj. gen., care American Legation, Tokyo, Japan.
Macklin, J. E., lt. col. 3 inf., Ft. Liscum, Alaska.
MacKinlay, W. E. W., 1 lt. 1 cav., Washington, D. C.
MacLeod, Norman, lieut., North American Bldg., Philadelphia.
McCabe, E. R. W., 2 lt. 6 cav., Ft. Keogh, Mont.
McCain, Wm. A., 2 lt. 8 cav., Manila, P. I.
McCarthy, D. E., maj. Q. M. D., Manila, P. I.
McCaskey, D., 1 lt. 4 cav., a. d. c. to Gen. McCaskey, Denver.
McCaskey, Wm. S., brig. gen., Denver, Col.
McClernand, E. J., lt. col. 1 cav., mil. attache, Tokyo, Japan.
McClintock, J., lt. 9 cav., Jefferson Bks.
McClure, A. N., 1 lt. 5 cav., Ft. Duchesne, Utah.
McClure, N. F., capt. 5 cav., Ft. Huachuca, Ariz.
McCord, J. H., lt. col., St. Joseph, Mo.
McCormick, L. S., maj. 7 cav., Manila, P. I.
McCormack, W. H., capt. 9 cav., Ft. Riley, Kan.
McCoy, Frank R., capt. 8 cav., Manila, P. I.
McCrossin, E. J., 614 Nat. Bank Bldg., Birmingham, Ala.
MacDonald, A., vetn. 11 cav., Ft. Des Moines, Ia.
MacDonald, G. H., capt. 1 cav., West Point.
McDonald, J. B., capt. 3 cav., Ft. Assiniboine.
McEnhill, Frank, 2 lt. 2 cav., Manila, P. I.
McFadden, J. F., lt., 121 Chestnut st., Philadelphia.
McGee, Oscar A., 1 lt. 2 cav., Manila, P. I.
McGonigle, J. A., lt., Leavenworth, Kan.
McKenney, Henry J., 1 lt. 14 cav., Manila, P. I.
McKee, Will J., gen., Indianapolis.
McKinley, James F., 1 lt. 14 cav., Manila, P. I.
McLeer, J. C., lt., 475 Halsey st., Brooklyn.
McMullen, J. L., 2 lt. 15 cav., Ft. Ethan Allen.
McMurdo, C. D., vetn. 10 cav., Ft. Robinson.
Macnab, A. M., 1 lt. Phil. Scouts, Manila, P. I.
McNally, R. E., 1 lt. (cav.), Ft. Wood, N. Y.
McNamee, M. M., capt. 15 cav., Ft. Ethan Allen,
McNarney, F. T., 1 lt. 6 cav., Ft. Meade.
Macomb, A. C., capt. 5 cav., Ft. Huachuca, Ariz.
Macomb, M. M., maj. art. corps, care mil. sec'y, Washington.
Maigne, Chas. M., 2 lt. 7 cav., Manila, P. I.
Maine, Sidney D., 2 lt. 3 cav., Boise Bks, Idaho.
Mangum, W. P., jr., 2 lt. 15 cav., Ft. Ethan Allen, Vt.
Mann, H. E., 2 lt. 7 cav., Manila, P. I.
Marshall, F. C., capt. 15 cav., West Point, N.Y.
Martin, I. S., 2 lt. 15 cav., Ft. Ethan Allen, Vt.
Martin, J. W., lt., 1709 Walnut st., Philadelphia.
Martin, W. F., 1 lt. 2 cav., Manila, P. I.
Mason, Chas. W., lt. col. 29 inf., Ft. Duchesne, Utah.
Matthias, W. W., Walden, N. Y.
Maus, M. P., col. 20 inf., Manila, P. I.
Mayo, Charles R., 2 lt. 12 cav., Ft. Oglethorpe.
Meade, W. G., 2 lt. 11 cav., Ft. Riley, Kan.
Mearns, Robert W., capt. 20 inf., Manila, P. I
Mears, Fred., 2 lt. 5 cav., Ft. Leavenworth.
Megill, S. C., 2 lt. 8 cav., Manila.
Meltzer, C. F., lt., 1282 Wilcox ave., Chicago.
Mercer, W. A., capt. 7 cav., Carlisle, Pa.
Merritt, W., maj. gen. ret., care Morgan, Harjes & Co., Paris, France.
Metcalf, W. S., gen., Lawrence, Kan.
Meyer, Oren B., capt. 14 cav., Manila, P. I.
Michie, R. E. L., capt. 12 cav., War College, Washington.
Miller, A. M., capt. 9 cav., Ft. Riley, Kan.
Miller, Archie, 1 lt. 6 cav., Ft. Keogh, Mont.
Miller, O., lt., 899 Euclid ave. Cleveland, O.
Miller, Troup, lt. 7 cav., Manila, P. I.
Miller, Wm. H., lt. col., Q.M. dept., Chicago, Ill.
Mills, Albert L., brig. gen., West Point, N. Y.
Mills, A., brig. gen. ret., 2 Dupont Circle, Washington, D. C.
Mills, S. C., col. insp. gen. dept., Governors Isl.
Milton, A. M., 2 lt. 4 cav., Three Rivers, Cal.
Miner, C. W., brig. gen. ret., 70 Lexington ave., Columbus, Ohio.
Mitchell, George E., capt. 13 cav., Manila, P. I.
Mitchell, H. E., 2 lt. 3 cav., Boise Bks, Idaho.
Moffet, Wm. P., 1 lt. 13 cav., Ft. Riley, Kan.
Monohan, J. J., capt., West Chelmsford, Mass.
Moore, Francis, brig. gen., San Francisco.
Moore, J. A., lt. art. corps, Ft. Slocum, N. Y.
Morey, Lewis S., 1 lt. 12 cav., Manila, P. I.
Morgan, G. H., maj. 9 cav., University of Minnesota, Minneapolis, Minn.
Morgan, John M., capt. 12 cav., Ft. Oglethorpe.
Morris, W. V., 1 lt. 6 cav., West Point, N. Y.
Morrison, C. E., col., Parkersburg, W. Va.
Morrison, G. L., lt. 5 cav., Ft. Apache, Ariz.
Morrow, H. M., maj. j. a., Denver, Col.
Morrow, J. J., capt. eng., Washington, D. C.
Morton, C., col. 7 cav., Manila.
Morton, C. E., 1 lt. 16 inf., Ft. Leavenworth.
Moseley, G. V. H., 1 lt. 1 cav., San Antonio, Tex.
Moses, G. W., capt. pay dep., Manila.
Mott, T. B., capt. art. corps, Paris, France.
Mowry, P., 1 lt. 15 cav., Ft. Ethan Allen, Vt.
Mueller, Albert H., 2 lt. 8 cav., Manila.
Mueller, R. W., capt., Milwaukee, Wis.
Müller, C. H., 2 lt. 10 cav., Ft. Robinson, Neb.
Mumma, Morton C., 1 lt. 2 cav., Manila, P. I
Munro, H. N., 2 lt. 1 cav., Ft. Clark, Tex.
Munro, J. N., capt. 3 cav., Ft. Assiniboine.
Murphy, P. A., capt. 1 cav., Ft. Clark, Tex.
Murphy, Will H., capt., Corsicana, Tex.
Murray, C. H., lt. col. 11 cav., Ft. Des Moines.
Myers, Hu B., 1 lt. 5 cav., Ft. Huachuca, Ariz.
Nance, John T., capt. 9 cav., University of Cal., Berkeley, Cal.
Naylor, C. J., 2 lt. 4 cav., Presidio, Monterey.
Naylor, W. K., capt. 9 inf., Ft. Leavenworth.
Nichols, Wm. A., maj. insp. gen'l dept., St. Louis, Mo.
Nicholson, Wm. J., maj. 7 cav. Manila, P. I.
Nissen, A. C., capt. 5 cav., Ft. Huachuca, Ariz.
Noble, Robert H., capt. 3 inf., Manila, P. I.
Nockolds, C., vetn. 1 cav., Ft. Sam Houston, Tex.
Nolan, D. E., capt. 30 inf., Lemon Building, Washington, D. C.
Nolan, Robert M., 1 lt. 1 cav., Ft. Clark, Tex.
Norman, Wm. W., capt., 2 Punjab cav.
Norton, Clifton R., 2 lt. 15 cav., Ft. Ethan Allen.
Norvell, Guy S., 1 lt. 8 cav., Manila.
Norvell, S. T., lt. col. ret., Ogunquit, York Co., Maine.
Noyes, Charles R., maj. 9 inf., Omaha, Neb.
Noyes, Henry E., brig. gen. ret., 2913 Van Ness ave., San Francisco, Cal.
Oakes, James, brig. gen. ret., The Portland, Washington.
O'Connor, Charles M., maj. 14 cav., Manila, P. I.
Odell, A. S., 1 lt. 11 cav., Ft. Riley.
Oden, G. J., 1 lt. 10 cav., Ft. Washakie, Wyo.
Offley, Edward M., 2 lt. 1 cav., Ft. Clark, Tex.
Oliver, L. W., 1 lt. 8 cav., Manila, P. I.
Oliver, Prince A., 2 lt. 5 cav., Ft. Apache, Ariz.
Oliver, Robt. Shaw, asst. sec. of war, Washington, D. C.
Olmstead, E., North Broad st., Elizabeth, N. J.
Orton, Edward P., capt. 2 cav., Manila, P. I.
O'Shea, John, capt. 4 cav., Three Rivers, Cal.
Otis, Frank L., 1 lt. 4 cav., Presidio, San Francisco.
Ott, Frederick M., capt., Harrisburg, Pa.
Overton, W. W., 2 lt. 15 cav., Ft. Ethan Allen.
Paddock, G. H., lt. col. 5 cav., Ft. Wingate, N. M.
Pagan, W. E., capt., 80 Terrace, Buffalo, N. Y.
Page, Charles, brig. gen. ret., 340 Dolphin st., Baltimore, Md.
Paine, Wm. H., capt. 7 cav., Ft. Leavenworth
Palmer, B., 1 lt. 10 cav., Ft. Robinson, Neb.
Palmer, H. W., lt., 2711 Prospect st., Tacoma.
Parker, C., jr., lt., 765 Broad st., Newark, N. J.
Parker, Dexter Wm., Meriden, Conn.
Parker, F. Le J., capt. 12 cav., Ft. Leavenworth.
Parker, Frank, capt. 15 cav., Caracas, Ven.

Parker, James, lt. col., 13 cav., Ft. Riley, Kan.
Parker, J. S., capt. q. m. dept., Ft. Mackenzie, Wyo.
Parker, Samuel D., 50 State st., Boston, Mass.
Parsons, L., capt. 9 cav., Ft. Riley.
Patterson, W. L., 2 lt. 18 inf., Ft. Leavenworth, Kan.
Pattison, H. H., capt. 3 cav., Ft. Assiniboine.
Paxton, R. G., capt. 10 cav., Ft. Robinson, Neb.
Pearson, D. C., lt. col. 7 cav., Ft. Oglethorpe, Ga.
Pearson, John A., 2 lt. 11 cav., Ft. Des Moines, Iowa
Pearson, S. B., 1 lt. 9 cav., Ft. Riley, Kan.
Penfield, W. G., lt. ord. dept., Watertown Arsenal, Watertown, Mass.
Penn, Julius A., capt. 7 inf., Manila, P. I.
Perkins, A. S., 1 lt. 1 cav., Ft. Clark, Texas.
Perkins, Chas. E., capt., Nogales, Arizona.
Perrins, Wm. A., maj., box 7, Roxbury, Mass.
Perry, Alex. W., capt. 11 cav., Ft. Des Moines.
Perry, Oran, gen., Indianapolis.
Pershing, J. J., capt. 15 cav., mil. attache, Tokyo, Japan.
Pershing, W. B., capt. 10 cav., Ft. Bayard, N. M.
Phillips, Ervin L., capt. 13 cav., Ft. Myer, Va.
Pilcher, W., 1 lt. 5 cav., Whipple Bks, Ariz.
Pitcher, J., maj. 6 cav., Ft. Yellowstone, Wyo.
Place, Olney, 2 lt. 6 cav., Ft. Meade, S. D.
Plummer, E. H., maj. 3 inf., Ft. Egbert, Alaska.
Poillon, Arthur, 1 lt. 14 cav., Manila, P. I.
Pond, G. E., col. Q. M. dept., Washington, D. C.
Pope, Francis H., capt. 14 cav., Manila, P. I.
Pope, Wm. R., 2 lt. 2 cav., Manila, P. I.
Power, E. L., capt., Pendelton, Ore.
Powers, Robert B., capt. 7 cav., Fayetteville, Ark.
Pratt, H. C., 2 lt. 4 cav., Presidio, San Francisco.
Pratt, Richard H., brig. gen., 1019 Penn ave., Denver.
Prentice, J., 2 lt. art. corps, Fremont, S. C.
Price, G. E., 2 lt. 10 cav., Ft. Robinson, Neb.
Pritchard, G. B., jr., capt. 5 cav., Ft. Huachuca.
Purington, G. A., 1 lt. 8 cav., Manila, P. I.
Purviance, S. A., 1 lt. 4 cav., care J. W. Heebner, Chestnut Hill, Philadelphia, Pa.
Quinlan, D. P., lt. 9 cav., Corvallis, Ore.
Ramsey, Frank De W., capt. 9 inf., 21 Jackson Place, Washington, D. C.
Randolph, H. M., maj., Denver, Col.
Randolph, W. F., maj. gen. ret., 1317 N. H. ave. N. W., Washington.
Rankin, R. C., maj., Las Vegas, New Mex.
Rawle James, lt., Bryn Mawr, Pa.
Rawle, Wm. B., lt. col., 211 S. 6 st., Philadelphia.
Raymond, J. C., capt. 2 cav., Manila, P. I.
Raysor, M. C., 1 lt. 5 cav., Ft. Apache, Ariz.
Read, B. A., 1 lt. 6 cav., Ft. Meade, S. Dak.
Read, G. W., capt. 9 cav., Ft. Riley, Kan.
Read, John H., jr., 2 lt. 14 cav., Manila, P. I.
Read, R. D., jr., maj. 10 cav., Ft. Robinson, Neb.
Reade, Philip, col. 23 inf., Madison Bks., N. Y
Reagan, T. M., 1 lt. 15 cav., Ft. Ethan Allen.
Reaney, R. J., 1 lt. 2 cav., Manila, P. I.
Reed, Wm. O., 1 lt. 6 cav., Ft. Meade, S. D
Reeves, Jas. H., capt. 14 cav., Manila, P. I.
Reilly, Henry J., 2 lt. 2 cav., Manila, P. I.
Remington, F., 901 Webster ave., New Rochelle, New York.
Renziehausen, W. B., 1 lt. 4 cav., Wawona, Cal.
Rethorst, Otto W., 1 lt. 5 cav., Manila, P. I.
Reynolds, Robt. W., 2 lt. 3 cav., Ft. Yellowstone, Wyo.
Rhea, J. C., 1 lt. 7 cav., Manila, P. I.
Rhodes, A. L., 2 lt. art. corps, Ft. Strong, Mass.
Rhodes, C. D., capt. 6 cav., Lemon Bld., Washington, D. C.
Rice, S., capt. 3 cav., Ft. Assiniboine, Mont.
Rich, A. T., 2 lt. 26 inf., Ft. Sam Houston, Tex.
Richard, J. J., capt., 29 Walling st., Providence, R. I.
Richmond, H. S., capt., 717 Madison ave., Albany, N. Y.
Ridgway, T., capt. art., Ft. Sill, Okla.
Riggs, Kerr T., 2 lt. 11 cav., Manila, P. I
Righter, J. C., jr., 1 lt. 4 cav., Presidio, San Francisco, Cal.
Ripley, Henry L., maj. 8 cav., Manila, P. I.
Ripple, Ezra H., Scranton, Pa.
Rivers, T. R., capt. 4 cav., Presidio, S. F., Cal.
Rivers, Wm. C., capt. 1 cav., Manila, P. I.
Robe, Chas. F., brig. gen. ret., San Diego, Cal.
Roberts, T. A., capt. 7 cav., Manila, P. I.
Roberts, Wm. M., 1 lt. M. D., Ft. Sill, Okla.
Robertson, S. W., 2 lt. 15 cav., Ft. Ethan Allen.
Rockenbach, S. D., capt. 12 cav., maj. Philippine scouts, Manila, P. I.
Rockwell, V. Las., 1 lt. 11 cav., Ft. Des Moines.
Rodgers, A., lt. col. 15 cav., Ft. Ethan Allen, Vt.
Rodney, D. R., 2 lt. 6 cav., Ft. Duchesne, Utah.
Rodney, G. B., 1 lt. 5 cav., Ft. Apache, Ariz.
Rodney, W. H., 2 lt. 1 cav., Ft. Clark, Tex.
Roe, C. F., maj. gen., 280 Broadway, N. Y.
Roome, B. R., lt., Pier 32 New E River, N. Y.
Roscoe, David L., 2 lt. 1 cav., Ft. Clark, Tex.
Ross, J. O., 1 lt. 15 cav., gen. hosp., Washington Bks., D. C.
Rothwell, T. A., 2 lt. 5 cav., Ft. Duchesne.
Roudiez, Leon S., capt. q. m. dept., Ft. Riley, Kan.
Rowan, H., maj. art., Governor's Island.
Rowell, M. W., capt. 11 cav., Manila, P. I.
Rucker, Louis H., brig. gen. ret., Los Angeles.
Ruggles, F. A., 2 lt. 15 cav., Ft. Ethan Allen, Vt.
Ruhen, G., lt. col. Q. M., Washington, D. C.
Russell, E. K., maj. ret., 1005 S. 49 st., Philadelphia.
Russell, F. W., lt., Plymouth, N. H.
Russell, Geo. M., 2 lt. 14 cav., Manila, P. I.
Rutherford, S. McP., capt. 4 cav., Ft. Walla Walla, Wash.
Ryan, James A., capt. 15 cav., Ft. Ethan Allen.
Ryan, John P., capt. 6 cav., Ft. Leavenworth.
Ryan, T. F., 1 lt. 11 cav., Ft. Leavenworth.
Sands, G. H., capt. 6 cav., Ft. Meade, S. Dak.
Sargent, H. H., capt. 2 cav., College Sta., Tex.
Sawtelle, C. G., jr., capt. 8 cav., Manila, P. I.
Saxton, Albert E., capt. 8 cav., Manila, P. I.
Sayre, Farrand, capt. 5 cav., Ft. Leavenworth.
Sayre, R. H., lt., 9 E 40 st., New York.
Schenck, A. D., lt. col. art. corps, Ft. Stevens, Oregon.
Scherer, L. C., capt. 4 cav., Presidio, San Francisco, Cal.
Schermerhorn, F. E., capt., 1129 Chestnut st., Philadelphia.
Schofield, R. McA., capt. Q. M. D., St. Paul.
Schroeter, A. H., 1 lt. 1 cav., Ft. Sam Houston, Texas.
Schultz, Theo., 1 lt. 14 cav., Manila, P. I.
Schuyler, Walter S., lt. col. 2 cav., care Mil. Sec., Washington.
Schwan, Theo., brig. gen. ret., 1300 20th st. N. W., Washington.
Schwarzkopf, Olaf, vetn. 3 cav., Ft. Assiniboine, Mont.
Scott, Geo. L., maj. 10 cav., Onigum, Minn.
Scott, Hugh L., maj. 14 cav., Manila, P. I.
Scott, W. J., 1 lt. 10 cav., Ft. Robinson, Neb.
Scott, W. S., capt., col. Phil. Constabulary, Manila.
Scott, W. S., capt. Q. M. D., Cheyenne, Wyo.
Seoane, C. A., 1 lt. 3 cav., Ft. Yellowstone, Wyo.
Service, S. W., vetn. 10 cav., Ft. Mackenzie, Wyo.
Sharpe, H. G., col. sub. dept., Washington, D. C.
Sheldon, R., capt. 18 inf., Ft. Leavenworth.
Shelley, J. E., 1 lt. 11 cav., Ft. Des Moines, Ia.
Sheridan, M. V., brig. gen. ret., 1516 Jefferson Place, Washington.
Sheridan, P. H., 2 lt. 5 cav., Ft. Grant, Ariz.
Shunk, Wm. A., maj. 8 cav., Delafield, Wis.
Sibley, F. W., maj. 2 cav., Manila, P. I.
Sickel, H. G., maj. 12 cav., Ft. Oglethorpe, Ga.
Sidman, F. E., 2 lt. 8 cav., Manila, P. I.
Sievert, H. A., capt. 9 cav., Ft. Leavenworth.
Sillman, Robt. H., 1 lt. 15 inf., Monterey, Cal.
Sills, William G., capt. 1 cav., Ft. Sam Houston, Tex.

Simms, C. W., col., Ronceverte, Greenbrier Co. W. Virginia.
Simpson, W. L., capt. 6 inf., U. S. A. T. Logan, San Francisco.
Simpson, W. S., capt., Bovina, Texas.
Sirmyer, Edgar A., capt. 8 cav., Manila, P. I.
Stevens, T. H., capt. Q. M. D., Washington.
Slocum, H. J., maj. 2 cav., Manila, P. I.
Slocum, S. L'H., capt. 8 cav., Manila, P. I.
Smalley, Howard R., 2 lt. 2 cav., Manila, P. I.
Smedberg, Wm. R., maj. ret., 1611 Larkin st., San Francisco.
Smedberg, W. R., jr., capt. 14 cav., Manila, P. I.
Smith, A. L., lt. col. sub. dep., Manila.
Smith, Cornelius C., capt. 14 cav., Manila, P. I.
Smith, Frederick McC., lt. art. corps., Ft. Williams, Me.
Smith, Gilbert C., 1 lt. 2 cav., mil. sec. office, Washington.
Smith, Harry R., col., Clarksburg, W. Va.
Smith, M. C., capt. 14 cav., Manila, P. I.
Smith, Selwyn D., 1 lt. 5 cav., Ft. Apache, Ariz.
Smith, Talbot, 2 lt. 8 cav., Manila, P. I.
Smith, Walter D., 2 lt. 11 cav., Ft. Des Moines.
Smith, Walter H., 2 lt. 13 cav., Ft. Riley, Kan.
Somerville, Geo. R., 2 lt. 14 cav., Manila, P. I.
Spaulding, O. L., capt. art. corps, Ft. Leavenworth.
Sproule, Wm. A., vetn. art., Ft. D. A. Russell.
Stancliff, Ray J., vetn. 8 cav., Manila, P. I.
Starr, C. G., maj. inf., Manila, P. I.
Stedman, C. A., col. 5 cav., Ft. Huachuca, Ariz.
Steele, Matt. F., capt. 6 cav., Ft. Leavenworth.
Steever, Edgar Z., col. 4 cav., Ft. Walla Walla.
Sterling, E. K., 2 lt. 3 cav., Ft. Assiniboine.
Sterrett, R., 1 lt. 9 cav., Ft. Leavenworth.
Stennenburg, Geo., 1 lt. 13 cav., care mil. sec. office, Washington.
Stevens, Chas. J., capt. 2 cav., Manila, P. I.
Stevenson, Wm. L., 2 lt. 11 cav., Ft. Des Moines.
Stewart, Cecil, capt. 4 cav., Portland, Oreg.
Stewart, C. W., 2 lt. 5 cav., Ft. Huachuca, Ariz.
Stewart, T. J., brig. gen., Harrisburg, Pa.
Stiles, J. C., com. nav. bat., Brunswick, Ga.
Storkle, Geo. E., capt. 8 cav., Manila, P. I.
Stotler, C. E., capt. 9 cav., Ft. Leavenworth.
Stott, Clarence A., 2 lt. 12 cav., Ft. Oglethorpe, Ga.
Straub, Oscar I., capt. art., Ft. Snelling, Minn.
Strong, F. S., capt. art., 1615 K st., Washington.
Strong, G., capt., 108 Dearborn st., Chicago.
Strong, Geo. V., 2 lt. 6 cav., Ft. Meade, S. D.
Stryker, Geo. L., 2 lt. 6th cav., Ft. Meade, S. D.
Stuart, E. R., capt. eng., Ft. Leavenworth.
Sturgis, Dexter, 1 lt. 13 cav., Ft. Riley, Kan.
Sturgis, Edw. A., 1 lt. 5 cav., Ft. Apache, Ariz.
Suer, Geo. W., capt., 4128 Ellis ave., Chicago, Illinois.
Sumner, S. S., maj. gen., San Francisco, Cal.
Suplee, E. M., capt. 14 cav., Jefferson Bks.
Sweeney, C. B., capt. 13 cav., Ft. Riley, Kan.
Swift, Eben, maj. 12 cav., Ft. Leavenworth.
Swift, Eben, jr., 1 lt. 11 cav., Ft. Leavenworth.
Swigert, Samuel M., col. ret., 2305 Green st., San Francisco.
Symington, John, 2 lt. 11 cav., Ft. Riley, Kan.
Tate, Daniel L., capt. 3 cav., Boise Bks., Idaho.
Tatum, H. C., 2 lt. 7th cav., Manila, P. I.
Taulbee, Joseph F., 2 lt. 2 cav., Manila, P. I.
Taulbee, M. K., capt. P. R. Regt., Cayey.
Taylor, C. W., maj. 13 cav., Phoenix Bldg., St. Paul, Minn.
Taylor, T. B., 1 lt. 11 cav., Ft. Des Moines.
Taylor, W. R., 1 lt. 3 cav., Ft. Assiniboine.
Tempany, J., vetn. 9 cav., Ft. Riley, Kan.
Terrell, H. S., 1 lt. 10 cav., Ft. Mackenzie, Wyo.
Thayer, Arthur, capt. 3 cav., West Point.
Thomas, C. O., jr., 1 lt. 1 cav., Ft. Sam Houston, Texas.
Thomas, Earl D., col. 11 cav., Ft. Des Moines.
Thurston, H. B., lt. col., 176 W. 87th st., N. Y.
Tilford, J. D., 1 lt. 1 cav., Ft. Leavenworth.
Tompkins, C. H., brig. gen. ret., 1427 20th st., Washington, D. C.
Tompkins, D. D., 2 lt. 10 cav., Ft. Mackenzie.
Tompkins, E. R., 1 lt. 11 cav., Ft. Des Moines.
Tompkins, F., capt. 11 cav., Ft. Des Moines.
Towar, Albert S., col. pay dept., Chicago.
Towles, Churchill, maj., Houston, Tex.
Townsend, C. C., capt., Greeley, Col.
Townsend, P. C., Corsicana, Tex.
Townshend, Orval P., capt. P. R., Cayey.
Traub, Peter E., capt. 13 cav., Ft. Leavenworth.
Treat, Chas. G., capt. art., Hyannisport, Mass.
Tremaine, Wm. C., 1 lt. 15 cav., Ft. Ethan Allen.
Tripp, S. O., lt. col., Peoria, Ill.
Trippe, P. E., capt. 12 cav., Jefferson, Bks.
Trout, Harry G., capt. 2 cav., Manila, P. I.
Troxel, Orlando C., 2 lt. 12 cav., Manila, P. I.
Trumbo, Geo. A. F., 1 lt. 4 cav., Tyndall, S. D.
Tucker, W. F., lt. col. pay dept., Manila, P. I.
Turner, Fred. G., 1 lt. 6 cav., Ft. Meade, S. Dak.
Tuthill, A. M., capt., Morenci, Ariz.
Tyner, Geo. P., 1 lt. 2 cav., Manila, P. I.
Uri, J. H., vetn. 6 cav., Ft. Meade, S. D.
Valentine, Wm. S., capt., paymaster, U. S. A., 960 Bush st., San Francisco, Cal.
Valliant, R. D., 2 lt. 3 cav., Ft. Yellowstone.
Van Deusen, G. W., capt. art., Manila.
Van Leer, S., 1 lt. 15 cav., Ft. Ethan Allen.
Van Natta, T. F., jr., 2 lt. 8 cav., Manila, P. I.
Vans Agnew, R., vet. 5 cav., Ft. Huachuca, Ariz.
Van Voorhis, D., 1 lt. 3 cav., Ft. Leavenworth.
Varnum, C. A., lt. col. 4 cav., Ft. Walla Walla.
Vestal, S. P., capt. 7 cav., Ft. Bayard, N. M.
Vidmer, Geo., capt. 11 cav., Ft. Des Moines, Ia.
Viele, C. D., brig. gen. ret., 2645 Orchard ave., Los Angeles, Cal.
Vierra, F. M., lt., Salinas, Cal.
Vroom, P. D., brig. gen. ret., Hotel Clarendon, San Francisco.
Wade, James F., maj. gen., Governor's Island.
Wade, John P., capt. 2 cav., Governor's Island.
Wagner, H., col. ret., 501 W. 43d st., N. Y. City.
Waite, H. De H., 1 lt. ret., Berkeley, Cal.
Walcutt, Chas. C., jr., capt. cav., qm. dept., Prescott, Ariz.
Waldo, Rhinelander, 1 lt. 17 inf., Manila, P. I.
Walker, K. W., capt. 15 cav., Ft. Ethan Allen.
Walker, Kirby, capt. 11 cav., Manila, P. I.
Walker, R. W., 1 lt. 5 cav., Ft. Huachuca, Ariz.
Wallace, Wm. M., col. 15 cav., Ft. Ethan Allen.
Wallach, R. R., capt. 10 cav., Ft. Mackenzie, Wyo.
Walsh, R. D., capt. 9 cav., Ft. Leavenworth.
Wampold, L., capt., 4850 Kimbark ave., Chicago.
Warburton, Barclay E., capt., 701 Chestnut st., Philadelphia.
Ward, F. M., capt., 43 South street, New York.
Ward, F. K., lt. col. cav., Star Bldg., St. Louis.
Warren, Rawson, 2 lt. 11 cav., Ft. Des Moines.
Wassell, Wm. H., capt. 22 inf., Manila, P. I.
Waterman, John C., capt. 7 cav., Manila, P. I.
Watrous, J. A., maj. ret., 572 Lyon st., Milwaukee.
Watson, Jas. W., capt. 10 cav., 737 Iberville st., New Orleans.
Watson, J., 1 lt. 8 cav., Manila, P. I.
Watts, C. H., maj., cav., Ft. Huachuca, Ariz.
Wells, A. B., brig. gen. ret., Geneva, N. Y.
Wells, B., capt., Telluride, Col.
Wessendorff, Max, maj. ret., 1075 Williams st., Elizabeth, N. J.
Wesson, Chas. M., 1 lt. 8 cav., West Point.
West, Chas., lt. col., Enid, Okla.
West, E. S., 1 lt. 7 cav., Simpson College, Indianola, Ia.
West, F., lt. col., insp. gen., Oklahoma City.
West, P. W., capt. 11 cav., care Amer. Legation, Tokyo, Japan.
Westmoreland, Wade H., 1 lt. 11 cav., Fort Riley.
Wetmore, W. B., maj., Allenhurst, N. J.
Weibrecht, Chas., lt. col., Alliance, O.
Weyrauch, Paul H., 2 lt. 14 cav., Manila, P. I.
Wheatley, Wm. P., 2 lt. 5 cav., Whipple Bks.

Wheeler, Fred, maj. ret., Mass. Inst. Tech., Boston, Mass.
Wheeler, H. W., maj. 11 cav., Ft. Des Moines.
Whigam, W. H., capt., 38 Loomis st., Chicago.
White, Geo. P., capt. (cav.) qm. dept. Presidio, San Francisco.
White, H. A., capt. 11 cav., Ft. Leavenworth.
Whitehead, H. C., capt. 10 cav., Ft. Robinson.
Whitesides, J. G., lt., 3rd floor Keith Bldg., Philadelphia, Pa.
Whitlock, F. O., 1 lt. 14 cav., West Point.
Whitman, W. M., capt. 13 cav., Ft. Myer, Va.
Whitside, W. W., 1 lt. 15 cav., Ft. Ethan Allen.
Wieman, Henry, 176 Grove st., Brooklyn, N. Y.
Wilen, John W., 1 lt. 13 cav., Ft. Riley, Kan.
Williams, A. E., capt. 3 cav., Ft. Snelling, Minn.
Williard, Harry O., capt. 5 cav., Jefferson Bks.
Wills, H. S., lt., 96 Allen st., Albany.
Wilson, J. C., maj., 143 22d st., Chicago, Ill.
Wilson, James H., brig. gen. ret., 1305 Rodney st., Wilmington, Del.
Winans, E. B., jr., capt. 4 cav., Ft. Walla Walla.
Windsor, Henry, jr., Revere Copper Co., Boston, Mass.
Winfree, S. W., 2 lt. 9 cav., Ft. Riley.
Winham, F. W., capt., Salinas, Cal.
Winn, John S., capt. 2 cav., Manila, P. I.
Winnia, C. C., 1 lt. 5 cav., Ft. Huachuca.
Wint, Theodore J., brig. gen., Omaha, Neb.
Winter, J. G., jr., 2 lt. 6 cav., Ft. Meade, S. Dak.
Winter, M. A., col., 339 Pennsylvania ave., Washington, D. C.
Winterburn, G. W., 1 lt. 9 cav., Ft. Riley.
Winters, Wm. H., 1 lt. 13 cav., Ft. Myer, Va.
Wise, H. D., capt. 9 inf., Manila, P. I.
Wisser, J. P., maj. insp. genl. dept., S. F., Cal.
Wood, Edward E., col., West Point, N. Y.
Wood, John P., lt., 5211 N. 22d st., Philadelphia.
Wood, Leonard, maj. gen., Manila, P. I.
Wood, Robert E., 1 lt. 3 cav., Isthmian Canal Com., Panama.
Wood, Thomas J., brig. gen. ret., maj. gen., 121 N. Main st., Dayton, Ohio.
Woodruff, Carle A., gen. ret., Raleigh, N. C.
Woodruff, Wm. S., 1 lt. Porto Rico regt., Cayey.
Woodward, Samuel L., brig. gen. ret., 3710 Clemens ave., St. Louis, Mo.
Wotherspoon, W. W., lt. col., 4 inf., War Col., Washington, D. C.
Woude, A. J., 1 lt. 6 cav., Ft. Keogh, Mont.
Wright, E. S., capt. 1 cav., Ft. Clark, Tex.
Wright, Wm. R., jr., 71 Leonard st., New York.
Yates, A. W., capt. qm. dept., 185 Middle st., Portland, Me.
Yates, Wm., capt. 14 cav., Laramie, Wyo.
Young, E. C., col., Chicago.
Young, Samuel B. M., lt. gen. ret., Schuylkill Arsenal, Philadelphia.
Zane, Edmund L., 2 lt. 4 cav., Manila, P. I.
Zell, Edward M., 2 lt. 7 cav., Manila, P. I.
Zinn, George A., maj. eng., Wheeling, W. Va.

Publisher's Notices.

DIXON MILITARY INSTITUTE.

We are in receipt of the first annual announcement of the Dixon Military Institute, Dixon, Illinois. From this we believe this school to be destined to a career among military schools. What seems to be an entirely new feature is that the school gives courses leading to non-commissioned officers in the army. We were particularly struck by these courses. one in particular, being the course leading to sergeant. first-class, United States Army Hospital Corps. We are fully convinced this is a step in the direction that will lead us to an excellent force of noncommissioned officers, and may in a few years lead to an increase of pay for these valuable officers. This school has really been organized under the regular army system. Another feature, also new we believe, is that of allowing the department commanders of the army each to appoint as a cadet to the Institute, whenever vacancies exist in the respective departments, one soldier whose term of service expires not later than forty days from date of appointment. This appointee is entitled to his tuition. though he has to pay his other expenses. We hope to see some soldier sent under these conditions and watch the result. Captain Grant Allyn Capron is commandant, a name familar to army people.

THE C. C. TAFT CO.

We call attention to the advertisement of The C. C. Taft Co., of Des Moines, Iowa, the dealers in high class tobacco. In our last issue we find that one of the retail stores, there mentioned as the Croker Cigar Store, should be the Crocker

Cigar Store, Crocker Building. We trust that the retail stores of this firm have been generally patronized by the readers of the JOURNAL living at Des Moines. We are sure the readers like the best, and here they get it.

THE DEIMEL LINEN-MESH SYSTEM CO.

The property of absorbing and eliminating moisture differs greatly in various fabrics used for underclothing. All authorities on matters of hygiene agree that the absorption as well as the elimination of moisture takes place quicker with linen than with wool, cotton or silk. The Dr. Deimel Underwear represents Linen in its most modern state of perfection.

CLEANER MFG. CO.

Polishine still retains its unrivaled position, contains no acid, no grit; it is especially valuable for soldiers in cleaning accoutrements. Also most useful around the large kitchens. It should be carried in all post exchanges, so as to be constantly available.

FOOTWEAR.

Witchell Sons & Co., Ltd., are handling a line of goods of particular interest to army men. From their ad. in this issue readers can gather information as to the character of the goods, and a catalogue will show anyone an assortment that will suit the most exacting. Little need be said as to the desirability of this footgear, for it is too well known in the army to need comment. One trial is solicited of this firm from our readers when purchasing boots, and this one trial will continue the person ordering as a permanent customer.

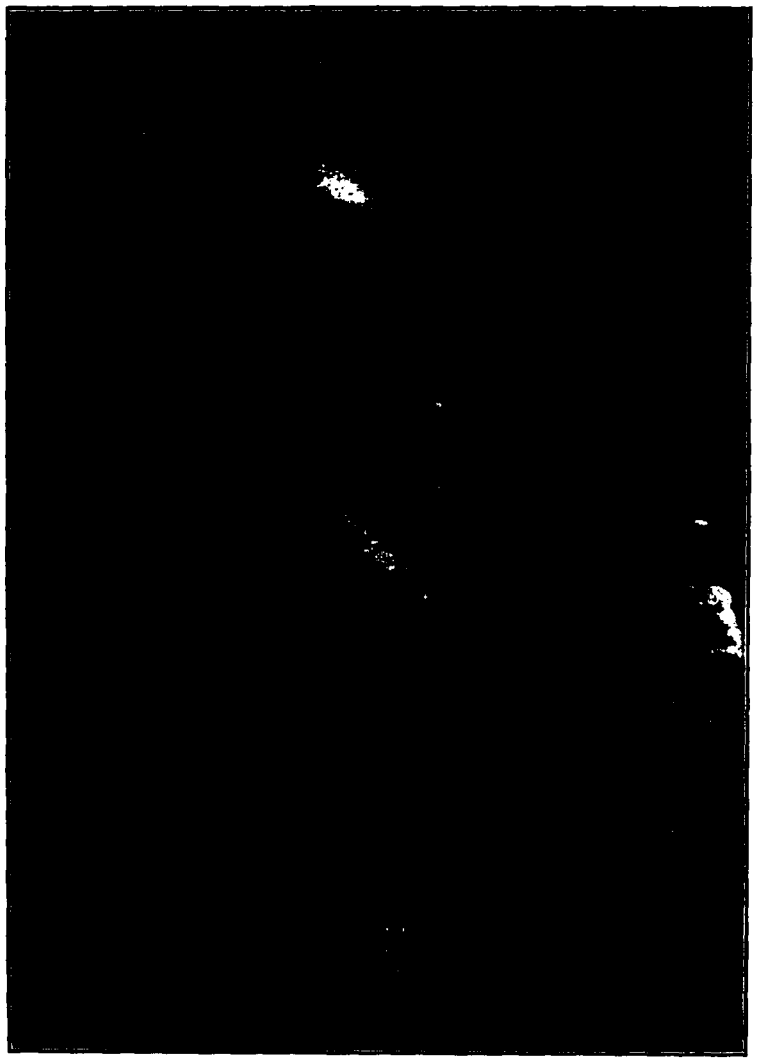
THE RESTORINE CO.

The forage cap of a bygone age was responsible, so it is supposed, not only for gray hair, but for no hair at all. Probably any cap in this regard is worse than a hat. So many of our readers, wearers of caps, will be glad to read our ad. of Restorine. Before taking this ad., as with all others,

the JOURNAL satisfied itself that the firm was what it claimed to be. Attention is called to the ad., and we trust many will be benefited as was Chaplain Newson.

GEORGE A. & WM. B. KING.

We take pleasure in calling the attention of readers to the ad. of Geo. A. & Wm. B. King, lawyers, in Washington, D. C. Army officers have reason to feel grateful to these attorneys, for it is idle to suppose the ten per cent. increase on pay proper would ever have been allowed had it not been for the work of this firm. Many officers feel it somewhat unjust that twenty per cent. of their rightful money should be required to secure the payment, but it was a condition that could be met in no other way. The decision in the first place was by a man who honestly believed he was right, and his integrity is not to be questioned. The firm of the Kings is one of the best known in Washington, and its work is attested by such publications as the Revised Statutes. Any army officer who has occasion to need the services of lawyers in Washington can always feel secure, in retaining the Kings, that his interests will be carefully and attentively looked after, and that his case will be won if ability and industry can win it.



MAJOR GENERAL ADOLPHUS W. GREELY.
UNITED STATES ARMY.

JOURNAL

OF THE

United States Cavalry Association.

VOL. XVII. OCTOBER, 1906. No. 62

[illegible]

THE FEDERAL NAVY WITH FLOTILLAS IN THE WESTERN [illegible]

BY [illegible], U. S. ENGINEERS

In the [illegible] War [illegible] and we [illegible] of [illegible] its [illegible] of [illegible] of [illegible] of North Virginia [illegible] the Mississippi [illegible] the [illegible] of the [illegible] in the east.

[illegible] of [illegible] of the [illegible] were [illegible] the Mississippi [illegible] of the war the [illegible] of the [illegible].

The Federal [illegible] of the West [illegible] charged with the [illegible] of the Mississippi [illegible] These [illegible] campaigns were [illegible] of the Appalachians. [illegible] to [illegible] must [illegible] the latter operations.

A brief [illegible] of the [illegible] of the Federal [illegible] of the West will [illegible] given in order [illegible] the operations [illegible] may [illegible] followed and [illegible] of the [illegible] with the general trend of events [illegible] and [illegible] the general [illegible] and operations [illegible] of the [illegible].

[illegible]

MAJOR GENERAL ADOLPHUS W[illegible]
U[nited] S[tates] A[rmy]

JOURNAL

OF THE

United States Cavalry Association.

VOL. XVII. OCTOBER, 1906. No. 62.

PRIZE ESSAY, 1905.

THE FEDERAL CAVALRY WITH THE ARMIES IN THE WEST. 1861-1865.*

BY CAPTAIN EDWIN R. STUART, CORPS OF ENGINEERS.

IN the Civil War, the Federal armies had two principal objectives,—first, the destruction of the Confederate Army of Northern Virginia (and incidentally the capture of Richmond), and second, the occupation of the Mississippi Valley, with the ultimate object of destroying the resources which enabled the Confederate government to keep its armies in the field.

The theaters of operations of the Federal armies seeking to attain these objects were divided until 1864 by the Allegheny Mountains, but even at the close of the war the theaters were still separate.

The "Federal Armies of the West" were the armies charged with the occupation of the Mississippi Valley, but their final campaigns were conducted east of the Alleghenies. To be complete, an account must include the latter operations.

A brief outline of the operations of the Federal armies in the West will first be given, in order that the operations of the cavalry may be followed, and the connection of these operations with the general trend of events understood, without continual reference to the general situation and operations of the different armies.

See *infra*, Editor's Table, Prize Essay.

At the beginning of the war, there existed territorial departments organized for administrative purposes of the regular army. It was natural that for a brief time the operations along the Mississippi, and in Kentucky, Missouri, and Arkansas, should be conducted from the headquarters of the Military Department of the West at St. Louis.

Soon the operations reached such magnitude as to necessitate a division of this area, and there were successively organized the Armies of the Tennessee, the Ohio, the Cumberland, and the Mississippi, these armies embracing the troops operating in the territorial departments of the same name. These territorial departments were named from the rivers which formed either the base or line of operations of the troops in the departments at the time of their organization.

While these armies kept their distinctive names, their units were interchanged at times, and they were combined in different ways under single commanders at other times. To attempt to follow the armies of the Tennessee, Ohio, etc., as such, can but lead to confusion. For instance, the designation of the Army of the Ohio was on October 30, 1862, changed to the Army of the Cumberland, and a new Department and Army of the Ohio were created. It is, therefore, preferable to consider the "Federal Armies of the West" as the separate aggregations of troops, each operating under a single commander, with separate lines of operations and objectives.

The operations then naturally divide themselves into:

1. The opening operations in Missouri and Arkansas.
2. The operations of the army based upon Paducah and St. Louis, operating via the Tennessee River to Corinth, and thence in Mississippi and Alabama to Chattanooga.
3. The operations of the army having as its line of operations the Louisville & Nashville Railroad, through central Kentucky and Tennessee to Chattanooga.
4. The operations of the armies resulting from the combination of those under 2 and 3 above, from Chattanooga to the end of the war.

OPERATIONS IN MISSOURI AND ARKANSAS.

At the beginning of the war, there was at St. Louis a garrison of about three hundred regular troops under the command of Captain Lyon. On May 10th, this force and a regiment of volunteers surrounded and captured a Confederate force at Camp Jackson, near St. Louis. Various Confederate forces were assembled at different points in the State, and these in turn received attention from the Federal forces under General Lyon, who received his promotion as a result of the capture of Camp Jackson.

The first operations were conducted against a Confederate force at Boonville. About the middle of June, General Lyon landed at Boonville and routed this unorganized force. A Federal force under General Sigel encountered the remnants of the force from Boonville at Carthage and attacked, but was unsuccessful. After this, the Confederate forces, largely reinforced from Arkansas and Missouri, were assembled under the joint command of Generals Price and McCulloch. General Lyon remained at Springfield. The Confederates marched upon him in two columns. Moving forward to Dug Springs, General Lyon defeated the portion of the force under General McCulloch. The entire Confederate force then went into camp at Wilson's Creek, and General McCulloch assumed command.

On August 10th the Federal force moved forward in two columns, one under General Sigel, and the other under General Lyon, and attacked the Confederate force. After a sanguinary and indecisive battle, both forces retreated. The Federal force was about 5,000, the Confederate about 11,000. The Confederate forces retired to the Arkansas border.

On July 9th General Fremont was assigned to the command of the Western District.

The Confederate force was placed under the command of General Price, and was gradually organized. This force proceeded northward in western Missouri, and on September 20th captured at Lexington about 2,800 Federal troops. General Price then retired to southwestern Missouri.

General Fremont proceeded to organize a force to operate against General Price. This force of five divisions concentrated at Springfield in the latter part of October. General Fremont was succeeded by General Hunter, and he in turn by General Halleck.

At the time General Halleck assumed command, the principal Federal forces were in the vicinity of Springfield, under the command of General Pope, and at Rolla under the command of General Curtis. During December General Pope effected the capture or dispersal of several small bodies of troops moving to join General Price, the greatest success being the capture of 1,300 men near Warrensburg.

In January, 1862, General Curtis moved south to engage General Price, but the latter retreated into Arkansas. General Curtis followed, and finally went into camp in the vicinity of Pea Ridge, Arkansas. His force was about 12,000 men.

General Price was joined by General McCulloch, and General Van Dorn was assigned to command the combined force, numbering 14,000 effectives.

On March 6th General Van Dorn attacked the Federal position at Pea Ridge, but was defeated. He was then ordered to Corinth, and most of the Federal troops were sent to General Grant. General Curtis marched to the Mississippi, arriving in July.

The only other operation worthy of note was the rout of a Confederate marauding force at Fredericktown in October, 1861.

FORT DONELSON TO CHATTANOOGA.

General Grant assumed command of the District of Southeast Missouri on September 1, 1861. Several movements were suggested by him, but in the main he was occupied in organizing and disciplining the forces gathering under him.

On November 6th he moved with an expedition of about 3,000 men down the Mississippi with the object of breaking up a force being or-

ganized in southeastern Missouri, landing at Belmont, opposite Columbus. A small force was driven out of its camps, but reinforcements for the Confederates from Columbus made a hasty reëmbarkation necessary.

By the 1st of February, 1862, General Grant's force had been increased to about 17,000 men. It started on that date on its operations against Forts Henry and Donelson, which were captured on February 6th and 16th respectively.

General Grant's army then moved to Pittsburg Landing, arriving March 11th and 12th. It had been increased to about 33,000 men. The Confederate forces under General A. S. Johnston, after abandoning the positions on the first line of defense, concentrated at Corinth, with the object of striking and overwhelming this Federal force at Shiloh. The attempt to do so resulted in the battle of Shiloh April 6–7, 1862, in which the Confederates were defeated through the timely arrival of General Buell from Nashville.

This latter army was temporarily diverted from its objective, Chattanooga, and the two armies were united under General Halleck, to give a sufficient force to operate against the Confederate army at Corinth, to which point it retreated after the battle of Shiloh. General Beauregard succeeded to command, General Johnston having been killed at Shiloh.

The advance up the Tennessee had necessitated the evacuation of the Confederate positions along the Mississippi. The evacuation was expedited by the operations against New Madrid and Island No. 10 by a force under the command of General Pope. This force also joined the army under General Halleck after the battle of Shiloh, bringing it to a total of 100,000 effectives.

The Confederate army was reinforced by General Van Dorn, bringing its strength to 53,000 effectives, though the paper strength was much greater.

General Halleck advanced slowly and cautiously against the Confederate position at Corinth, which was strengthened by fortifications. There was no severe fighting, and on May 30, 1862, the Confederates evacuated Corinth, carrying off all valuable stores.

Parallel operations along the Mississippi River resulted in the opening of the river as far as Vicksburg.

After the evacuation of Corinth, General Beauregard retreated as far as Tupelo, where, on account of ill-health, he turned over the command to General Bragg on June 27th. General Bragg immediately ordered one division to Chattanooga, and followed in the latter part of July with the rest of the army, exclusive of General Van Dorn's force. The latter was reinforced by General Price from Arkansas to maintain front against the Federal force in the vicinity of Corinth.

Early in June General Halleck ordered General Buell to proceed against Chattanooga via the Memphis and Charleston Railroad, repairing it as he went. General Buell wasted the entire month of June on this impossible task, and it was near the end of July when he was permitted to resume the natural line of advance against Chattanooga, the Louisville & Nashville Railroad.

On July 16th General Halleck was ordered to Washington, and General Grant was left in command at Corinth.

Prior to his departure, General Halleck had sent one division to Arkansas. Later, three divisions were sent to General Buell, in consequence of General Bragg's advance into Kentucky.

General Grant's force was thus reduced to about 42,000 men, which, on account of the necessity of guarding the railroad, was too small to undertake any aggressive movement. He therefore remained on the defensive confronted by the commands of General Price and Van Dorn, each about 16,000 men. The latter forces were distributed in northern Mississippi. General Bragg had transferred his entire army via Mobile to Chattanooga and was moving north into Kentucky.

General Bragg, believing General Buell to have been reinforced from General Grant's army—which was actually the case—ordered General Price to make such demonstrations as would hold the Federal army at Corinth. Having received General Van Dorn's consent to a combined movement of their forces, General Price was moving to effect a junction with General Van Dorn when he was attacked at Iuka on September 19th by a portion of General Grant's army under General Rosecrans. After an indecisive action General Price retreated.

The entire Confederate force was then concentrated at Ripley, and General Van Dorn assumed command. He immediately planned an attack on Corinth with the intention of turning General Grant's flank and forcing him to abandon western Tennessee. The attack was made on October 3d. After considerable success, the attack was suspended toward night. When renewed the following morning, the Confederates were repulsed and retreated to Holly Springs. The pursuit was rather feebly made, and was finally discontinued on account of lack of preparation for an extended movement. The Federal troops returned to their former positions at Corinth and Bolivar. General Pemberton succeeded General Van Dorn in command of the Confederate forces.

About November 1st General Grant began an aggressive movement against Vicksburg via Holly Springs and Grenada. On account of the difficulty of supplying his army over a single track railroad, the advance came to a standstill. The destruction of the depot of supplies at Holly Springs by General Von Dorn on December 20th forced the withdrawal of General Grant's army, and the abandonment of that line of advance against Vicksburg.

Meanwhile the Federal fleet had run by the defenses of New Orleans on April 24, 1862, and had received the surrender of the city the following day. General Butler arrived on May 1st and took possession of the city with a land force. The fleet, assisted by detachments of troops from General Butler's command then began operations for the destruction of batteries built by the Confederates for the defense of the river. Baton Rouge was captured on May 8th and Natchez on May 12th.

The evacuation of Fort Pillow June 4th, consequent upon the fall of Corinth, and the capture of Memphis on June 6th, left Vicksburg the sole obstacle to the complete control of the Mississippi River by

the Federals. During the summer of 1862 the fleet and a small land force operated from New Orleans against Vicksburg, attempting among other things to cut a canal across the peninsula opposite Vicksburg, but in the aggregate nothing was accomplished.

Admiral Farragut appreciated the inability of the fleet to capture Vicksburg without the assistance of a large land force. (The Mississippi, Greene, Scribner's Series, p. 23.) During July the fleet was withdrawn from in front of Vicksburg on account of low water, part of it going north to Memphis, and the rest south to New Orleans. Taking advantage of the withdrawal of the fleet, the Confederates seized and fortified Port Hudson.

A river expedition was defeated at Chickasaw Bluffs on December 29th. Several other plans were tried and failed, but finally a march down the river on the Arkansas side protected by the fleet, succeeded in gaining a foothold on the eastern bank of the Mississippi near Port Gibson. General Grant then marched his army to Jackson, defeated General Johnston who was coming to General Pemberton's aid, shut General Pemberton up in Vicksburg, and received his surrender on July 4, 1863.

On October 16th General Grant was assigned to the command of the Military Division of the Mississippi. He immediately bestirred himself to relieve Chattanooga, at that time besieged by General Bragg after the battle of Chickamauga. He ordered a portion of his force from Vicksburg to Chattanooga, assumed command there in person, and by the battles of Lookout Mountain and Missionary Ridge, November 23d to 25th, defeated General Bragg and raised the siege of Chattanooga.

General Johnston succeeded General Bragg in command, and retired to Dalton, Georgia. General Grant, in the spring of 1864, was placed in command of all the armies, and General Sherman took command of the army assembled at Chattanooga.

OPERATIONS VIA NASHVILLE TO CHATTANOOGA.

The Confederate line of defense taken up at the beginning of the war extended from Columbus on the Mississippi through Bowling Green to Cumberland Gap. Bowling Green was occupied by the principal Confederate force under General A. S. Johnston, who was in command of the Confederate Department of the West. General Johnston sent General Zollicoffer with 7,000 men to the vicinity of Cumberland Gap. Opposed to these forces were General Nelson in eastern Kentucky before General Zollicoffer, and General Sherman at Camp Nolin, Kentucky, the total force being about 20,000 men. The Confederate force under General Zollicoffer attacked Camp Wildcat on October 21st, and was repulsed. Nothing but minor movements occurred in Kentucky in 1861.

In November the Department of the Ohio was reorganized and made to include that part of Kentucky east of the Cumberland River. General Buell was placed in command, succeeding General Sherman, who was transferred to the Department of the Missouri. General Buell ordered General Thomas, who was then in command in eastern Kentucky, to advance and attack the Confederate force under General Zollicoffer. This movement resulted in the battle of Mill Springs, January 19, 1862, in which the Confederate force was badly defeated and driven out of Kentucky.

The capture of Forts Henry and Donelson by General Grant resulted in the evacuation of Bowling Green, and the subsequent advance up the Tennessee caused the evacuation of Nashville.

General Buell spent the fall and winter of 1861-2 in organizing and disciplining his army. He moved forward as General Johnston retreated, occupied Bowling Green on February 15th, and continued to Nashville, which was entered on February 25th. General Thomas joined General Buell, and the Federal forces in eastern Kentucky were placed under General Morgan, who seized Cumberland Gap. He had there 3,600 effective troops on April 19, 1862.

General Buell's army was concentrated at Nashville early in March, and on March 11th General Halleck was placed in command of the Department of the Mississippi, then created. He immediately ordered General Buell to march from Nashville to Pittsburg Landing to join the force under General Grant. This march was completed in time to participate in the second day's battle at Shiloh. Previous to leaving Nashville, one division was sent forward to Murfreesboro to occupy it and prepare the way for an advance against Chattanooga which General Buell contemplated. Another division was sent to occupy Columbia.

As before stated, General Buell's army remained under the command of General Halleck until after the fall of Corinth. Late in July it was ordered to resume operations against Chattanooga along the Louisville & Nashville Railroad, having failed to open the Memphis & Charleston Railroad.

Meanwhile, after the evacuation of Corinth, General Bragg moved the entire force under his command to Chattanooga.

During July and August the Federal movements were paralyzed by the repeated raids of Generals Forrest and Morgan on the railroad in General Buell's rear. Holding General Buell in check by these raids, General Bragg prepared for an invasion of Kentucky which would force General Buell to withdraw from middle Tennessee. General Kirby Smith, who had previously been sent to Cumberland Gap, was reinforced by General Bragg, with whom he offered to coöperate. He there possessed himself of the line of supply of the Federal force under General Morgan, but was unable to capture that force. General Kirby Smith then moved on, defeated a hastily gathered force at Richmond, Kentucky, and moved on to Lexington. General Morgan's force abandoned Cumberland Gap and retreated north to the Ohio River.

General Bragg concentrated his entire army at Sparta by September 5th, at which time General Buell's army was concentrated at Murfreesboro. General Bragg then started north via Bowling Green to strike the Louisville & Nashville Railroad at Munfordsville. He captured that place on September 17th, and then marched out and took up a position at Prewitt's Knob to await General Buell.

On September 7th General Buell started on his way north from Murfreesboro. He arrived at Bowling Green on September 14th. During the time of General Buell's absence from Kentucky, its defense had been entrusted to General Nelson.

Moving out from Bowling Green, General Buell came upon the army of General Bragg, and the two armies confronted each other for three days, but without fighting. General Bragg then moved aside to Bardstown to effect a junction with General Kirby Smith, and allowed General Buell to move north to Louisville, a thing he had been very anxious to do all the time. He reached Louisville on September 25th, immediately incorporated into his army the new troops that had reached Louisville, and moved south to meet General Bragg. The latter had left General Polk in command of the army, and had gone to Lexington to inaugurate a governor of Kentucky.

General Polk concentrated the army, exclusive of General Kirby Smith's command, in the vicinity of Perryville. General Bragg returned and there attacked what he believed to be a portion of General Buell's army, but what was really his entire force. The battle was a peculiar one, and was indecisive. After the battle General Bragg retired to Harrodsburg and effected a junction with General Kirby Smith. After waiting there a few days, and not daring to hazard a battle with General Buell, General Bragg started his retrograde movement via Camp Dick Robinson to eastern Tennessee. General Buell pursued as far as London, Kentucky, and then returned to Glasgow and Bowling Green. He was succeeded in command by General Rosecrans, who immediately moved the army to Nashville, arriving about November 17th. The time until December 26th was spent at Nashville repairing the railroad and accumulating supplies, notwithstanding strong pressure from Washington urging a premature forward movement.

On December 26th the advance against General Bragg, who had concentrated his force at Murfreesboro, was begun. General Rosecrans had about 47,000 men; General Bragg had about 38,000. These forces came face to face at Stone's River, where a fierce battle was fought on December 31, 1862, and January 2, 1863. General Bragg won a tactical success in the first day's battle, but was unable to follow it up. In the second day's battle he was unsuccessful, and retired to Tullahoma and went into winter quarters. General Rosecrans occupied Murfreesboro.

From January 1st to June 23d these armies lay in these positions, recruiting and refitting. On the latter date General Rosecrans advanced, and by masterly maneuvering forced General Bragg into Chattanooga without severe fighting by July 10th. General Bragg immediately commenced to fortify his position.

General Burnside, who had in the meantime taken command in eastern Kentucky, moved into eastern Tennessee, and on August 26th occupied Knoxville.

Immediately following General Bragg's retreat to Chattanooga, General Rosecrans set about repairing the railroad as far as Stevenson and preparing for a turning movement south of Chattanooga. This movement commenced on August 16th, and caused the evacuation of Chattanooga. General Bragg fell back into northern Georgia, where

he was reinforced by about 15,000 men from Mississippi, and by General Longstreet's corps from Virginia.

At Chickamauga, September 19th and 20th, General Bragg fell upon the columns of the Federal army as they emerged from the mountains, and inflicted upon them a bloody defeat. General Rosecrans retired to Chattanooga, where he was invested by General Bragg. General Longstreet moved up to Knoxville and laid siege to that place, which was occupied by General Burnside.

On October 16th General Grant was placed in command of the Military Division of the Mississippi, and General Rosecrans was superseded by General Thomas. General Grant immediately telegraphed General Thomas to hold Chattanooga, and proceeded there himself to take charge of the operations. General Sherman, with the Fifteenth Army Corps, was ordered from Mississippi, and arrived about November 15th. By the battles of Lookout Mountain and Missionary Ridge the siege of Chattanooga was raised, as before related.

On November 25th a force of 20,000 men was sent to Knoxville, the siege of which was raised on December 4th, and General Longstreet retired to Virginia to join General Lee.

CHATTANOOGA TO THE END.

This stage of the campaigns of the armies in the West opens with General Sherman in command at Chattanooga with about 100,000 men, confronted by General Johnston at Dalton with about 60,000.

General Sherman's advance commenced on May 4, 1864. He turned the position at Dalton, and General Johnston retired successively to Resaca, Adairsville, Allatoona, and finally, on May 25th, occupied a line extending from Dallas to New Hope Church, which was held until June 18th. Considerable fighting occurred during this period. On June 18th General Johnston retired to Kenesaw Mountain, where an assault on his lines was repulsed with great loss.

Being flanked out of this position, he retired to Nicajack Creek, and thence to a strong position on the Chattahoochee River. This position was also turned, and on July 9th General Johnston abandoned it and retired into Atlanta, where he was superseded by General Hood on July 18th.

Following General Johnston's plan, General Hood attacked at Peachtree Creek on July 20th, but was repulsed and retired into the fortifications of Atlanta.

General Sherman spent the latter part of July and all of August in cutting off General Hood's communications. On September 1st this was accomplished, and General Hood evacuated Atlanta. He then marched northward, striking the railroad at Allatoona, and then moved by Dallas to Tuscumbia and Florence, Alabama, reaching the latter place October 30th.

General Sherman restored his line of supply, and leaving General Thomas to look after General Hood, started on his march to the sea.

General Hood spent a month at Florence refitting, and then started north. He encountered a portion of General Thomas's force at Frank-

lin on November 30th, attacked, and was defeated with heavy loss. During the night the Federal force retreated, and General Hood continued north in pursuit to Nashville, which he observed until December 15th. On this date General Thomas moved out and attacked him, routed the Confederate force, and almost totally destroyed it.

On November 12th General Sherman severed communication with Chattanooga and the North, destroyed the railroad from Etowah to Atlanta, burned the foundries and machine shops at Rome and Atlanta, and on November 15th started for Savannah. The strength of his army was about 62,000 men. He moved via Milledgeville (November 24th) and arrived before the defenses of Savannah on December 9th and 10th, having thoroughly destroyed the railroads and military resources along his route.

By December 12th General Sherman had deployed his army before the defenses of Savannah, which were occupied by General Hardee with about 18,000 men. General Hardee evacuated Savannah December 20th, and proceeded to Charleston, South Carolina.

General Sherman began his march northward via Columbia, South Carolina, about the first of February, 1865. The Confederates were able to gather a force of about 33,000 men at Augusta by February 5th. No opposition was offered to General Sherman's advance. He reached Columbia early in February, and resumed the march northward February 20th. General Johnston was assigned to command of the Confederate forces opposed to him on February 23d.

Continuing the march, General Sherman defeated the Confederates at Averasboro March 16th, and at Bentonville March 19th to 21st. He then concentrated his forces at Goldsborough, North Carolina, and began preparations for a further movement to the north. He reached Raleigh on April 13th, and General Johnston surrendered the next day.

This closed the campaigns of the "Federal Armies in the West." It remains to be seen what part the cavalry played in these operations.

* * *

OPERATIONS OF THE CAVALRY IN THE WEST.

The subjects of organization, armament, equipment and supply are to be included in this discussion. The questions of regimental organization, armament and equipment are independent of the operations themselves, and may most conveniently be discussed first. The place of the cavalry in the organization of the armies was one, however, vitally affecting the operations, and is best considered in that connection. The question of supply followed, in the main, regular lines. The discussion of the exceptions to the rule may be most conveniently left until after the operations have been described.

REGIMENTAL ORGANIZATION.

Two regiments of cavalry were added to the regular army by an Act of Congress of March 3, 1855. Each consisted of ten companies, with one colonel, one lieutenant colonel and three majors. Each company consisted of one captain, one first lieutenant, one second lieutenant, four sergeants, four corporals, two buglers, one farrier and blacksmith, and fifty privates.

In 1861 the President issued a call for volunteers, among which was to be one regiment of volunteer cavalry. The authority for its organization is found in G. O. 15, W. D., dated May 4, 1861. (W. R. 122, pp. 151–4.) The regiment was to consist of four, five, or six squadrons of two companies each. The field and staff of the regiment were about the same as at present. Each company consisted of one captain, one first lieutenant, one second lieutenant, one first sergeant, one company quartermaster sergeant, four sergeants, eight corporals, two buglers, two farriers and blacksmiths, one saddler, one wagoner, and a minimum of fifty-six and a maximum of seventy-two privates. The noncommissioned officers, musicians, artificers and privates were to furnish their own horses and horse equipments, receiving therefor fifty cents per diem for use and risk, such allowance to cease in case the horse died or became unserviceable until a new one was supplied. Any volunteer cavalryman not furnishing his own horse was to serve on foot. The per diem allowance for use and risk of horse was changed on May 25th to forty cents. (W. R. 122, p. 234.)

The formation of an additional regiment of regular cavalry was directed by the President, and its organization was fixed by G. O. 16, W. D., dated May 4, 1861. This regiment was subsequently authorized by an Act of Congress approved July 29, 1861, and its organization was then fixed at not more than three battalions, of not more than two squadrons each. Each squadron was to consist of two companies. The commissioned and noncommissioned strength of the companies was as above, and the number of privates was to be such as the President might direct, not exceeding seventy-two. (W. R. 122, pp. 154–7, 372.)

The strength of volunteer regiments of cavalry was again specified in G. O. 126, W. D., of September 6, 1862 (W. R. 123, p. 518), remaining practically as before except that the number of companies was fixed at twelve, and the number of privates was increased to seventy-eight. G. O. 110, W. D., April 29, 1863 (W. R. 124, p. 175), modified the above by fixing the number of privates in a company at a minimum of sixty and a maximum of seventy-eight.

The average strength of the 174 cavalry regiments in the service on August 6, 1863, was 627 men. (W. R. 124, p. 991.)

ARMAMENT.

The armament of the cavalry was not uniform. At the beginning of the war, the Ordnance Department made no carbines or revolvers, and the government was dependent on private manufacturers of patented arms for its supply. In June, 1861, the contract price of carbines was $30.00 and of Colt's revolvers $25.00. (W. R. 122, p. 260.)

The Secretary of War, in a letter of November 13, 1862 (W. R. 123, p. 779), says that when the Army of the Potomac was organized, sabers and pistols were the recognized arms of the cavalry, carbines having

been rejected as useless, and that only lately had carbines been introduced in that army. The government was supplying them as rapidly as possible, but all of the cavalry could not be supplied immediately.

From this date, the effort was made to provide each trooper with a saber, a revolver and a carbine. Regiments frequently took the field without a complete equipment, but deficiencies were remedied as fast as possible. The sabers seem to have been supplied in sufficient quantity in almost all instances. General Sherman, however, in October, 1861, in a letter to General Crittenden, approves making lances for the mounted men in the absence of arms. (W. R. 4, p. 324.)

The carbines were of various patterns. At the beginning the carbine was either a muzzle loader, a breech loader (Hall carbine) using the prepared powder and ball charge, or a revolving carbine (Sharpe) loaded also with powder and ball. The latter seem to have been preferred. Several other patterns were issued, but by 1863 all these weapons had begun to give way to the Spencer carbine, a repeater using metallic cartridges. This carbine was in the hands of nearly all of the cavalry regiments at the close of the war.

The revolvers were also of different patterns. At the beginning of the war, the single loader powder and ball (horse) pistol, and the Colt's revolver were both in use. The standard may be taken as the Colt .45 six-shooter, using the prepared powder and ball charge.

The sabers were sufficiently uniform in pattern that no special comment has been found concerning them.

EQUIPMENT.

The saddle provided by the government was of the McClellan pattern, provided with crupper, breast strap and a buckle girth. It was covered with rawhide, a decided disadvantage. (CAVALRY JOURNAL, March 1898, p. 6.)

The pack was made up of the cloak and the forage bag, carried by straps on the pommel of the saddle, and the valise and wallet containing necessary articles of clothing on the cantle, also secured by straps. The carbine was carried in a boot attached to the saddle. The forage rope was carried on the cantle on the left, and the watering bridle on the right. Any forage carried was secured on the rear of the saddle. (Cavalry Tactics, 1841, pp. 24, 28–9.) The bridle was a double bit, snaffle and curb, worn over the halter. (Cavalry Tactics, 1841, pp. 29–30.)

* * *

CAVALRY OPERATIONS.

MISSOURI AND ARKANSAS, 1861–1862.

The initial operations in Missouri, the capture of Camp Jackson and the expedition to Boonville, were the work of the infantry. There was no cavalry stationed at St. Louis at the opening of the war. Captain Lyon even complained on April 30th that he had no horses for messenger service. (W. R. 1, p. 675.)

General Sigel, in the fight at Carthage, mentioned the moral effect of the Confederate cavalry in his rear, but seems to have had no adequate force to oppose it. (W. R. 3, p. 18.) The Confederate cavalry forces numbered about 1,800, but the Confederate cavalry in Missouri was generally poorly armed and organized.

The Federal force concentrated at Springfield after the fight at Carthage had with it four companies of cavalry. In the action at Dug Springs, one company under Captain Stanley made a successful mounted charge. (W. R. 3, p. 47.)

General Lyon on August 9th complained of the advantage of the Confederates in cavalry. (W. R. 3, p. 57.) He had with his own column at the battle of Wilson's Creek, August 10th, but two companies of cavalry and 250 mounted men. These seem to have performed no special service.

With the column under General Sigel in the same battle were two companies of cavalry, which were used as an advance guard in the forward march, on the flanks during the battle, and as a rear guard during a portion of the retreat. The infantry seems, however, to have been unable to march fast enough in the retreat, and the cavalry passed on. (W. R. 3, pp. 89–90.) It performed some service in picking up stragglers in the early part of the retreat. (W. R. 3, p. 91.)

After the battle of Wilson's Creek, the army at Springfield under General Sigel had with it 300 cavalry and 500 mounted men. (The distinction between "mounted men" and cavalry is not clear, but it is believed that "mounted men" refers to infantry for whom mounts were provided by capture.) It required, in his opinion, a reinforcement of 5,000 infantry and one or two regiments of cavalry for further operations. (W. R. 3, p. 85.)

The need of additional cavalry began early to be severely felt, and was urged upon the Secretary of War by a telegram as early as July, 1863. (W. R. 3, pp. 393–4.)

After the battle of Wilson's Creek, the cavalry was principally used in scouting and in small expeditions against Confederate marauders, pending a general movement against the Confederate forces.

The First Illinois Cavalry formed a part of the garrison of Lexington, Missouri, which was captured by the Confederates September 30th. (Brackett, History of the U. S. Cavalry, p. 221.)

At Fredericktown, Missouri, October 21, 1861, a force of about 360 cavalry formed part of the Federal command. Half of these executed a mounted charge, which was checked, but being supported by infantry, the Confederates retreated and the cavalry was used in the pursuit.

Of the force under General Pope around Springfield, the cavalry seems to have been inadequate in numbers (W. R. 3, p. 396; W. R. 8, p. 421) and unreliable. (W. R. 8, p. 407.) What he had was used in scouting and on picket duty. (W. R. 8, pp. 412, 421.)

One instance worthy of mention was an expedition to Milford, Missouri, in which seven companies of cavalry took part. They fought both mounted and dismounted, and contributed materially to the capture of the Confederate force of about 1,300 men.

From the force under his command at Rolla, General Curtis ordered on December 28th, an expedition against Springfield, consisting of twenty-five companies of cavalry, numbering 1,500 men. (W. R. 8, p. 473.) They carried rations for sixteen days. No report of this expedition has been found. Its object was to gain contact with the Confederates.

On January 14, 1862, General Halleck brought to the attention of General McClellan the fact that cavalry was the only force capable of suppressing the insurrection and bridge burning then going on (W. R. 8, p. 501), which interfered seriously with the military operations and spread discontent among the Union sympathizers.

Of the force which General Curtis took to Arkansas, about 2,500 were cavalry. (W. R. 8, pp. 553–4.) He requested reinforcements of 7,000 infantry and 3,000 cavalry. (W. R. 8, p. 562.) His report of organization on January 31, 1862 (W. R. 8, p. 539), shows his force to have been organized into four brigades of infantry and one brigade of cavalry, with some unattached cavalry in addition. It is apparent from other correspondence that a division organization existed early in February, but it is not known when the change occurred. General Pope's army was similarly organized about the same time.

On February 9, 1862, General Curtis published an order (W. R. 8, p. 550) assigning a regiment of cavalry to each of the four divisions of his command, leaving one regiment and two battalions unattached. Two of the divisions were placed under the command of General Sigel. The return of casualties in the battle of Pea Ridge, March 6–8, 1862, (W. R. 8, p. 204), shows, however, that most of the cavalry assigned to the divisions was attached to the brigades.

For the Pea Ridge campaign, we thus arrive at an organization which is to all intents and purposes brigade cavalry, and are prepared to find it performing no brilliant service. Nor does a perusal of the reports of this battle show that the use of cavalry was well understood.

During the forward movement from Rolla to Bentonville, the cavalry was used in scouting, and was pretty well broken down by this work. (W. R. 8, p. 197.) One battalion acted as body guard to General Curtis.

In the retrograde movement of General Sigel to effect a junction with General Curtis immediately before the battle, two companies of his cavalry were used as a rear guard until the middle of the afternoon, and then in reconnoissance until dark. (W. R. 8, pp. 229–232.) They joined in the pursuit of the retreating Confederates on March 8th.

The cavalry of General Curtis's own command, about fifteen companies, notwithstanding the faulty organization, was concentrated for use during the battle. It was used in connection with a brigade of infantry in a reconnoissance in force on March 7th, though when contact was gained with the Confederate cavalry the artillery opened the attack and the cavalry was disposed in support. While in this position two companies were sent to reconnoiter, and stumbled into the Confederate infantry. At this juncture both these two companies and the cavalry supporting the battery were charged by the Confederate cavalry. They offered no effective resistance, and were swept back until they gained the protection of the infantry. The guns they supported

were captured. During the latter part of the day, the cavalry remained in support of the artillery in the main line of battle. Five companies were detached to escort a battery to another part of the line, and remained there supporting it the remainder of the day. One regiment was sent to guard the right flank of the line on the morning of March 8th.

Upon the general retreat of the Confederate forces, the entire Federal cavalry force was sent in pursuit, but failed to accomplish anything beyond capturing a few stragglers. The pursuit was kept up as far as Bentonville, when it was abandoned because the "horses had had nothing to eat for three days." (W. R. 8, p. 235.)

The main idea of the use of the cavalry in the battle of Pea Ridge seems to have been to support the artillery, and it failed in this in the only test it had. The pursuit was a failure due to lack of care of the horses in the time immediately preceding and during the battle.

This cavalry remained with General Curtis's army and accompanied it on the march to the Mississippi River. No respectable resistance was encountered on this march, the Confederate troops having been withdrawn for the crucial battle at Shiloh.

VIA CORINTH TO CHATTANOOGA.

The necessity of seizing suitable points from which to organize the invasion of Tennessee, and for opening the Mississippi River, led to the organization of the District of Southeast Missouri on September 1, 1861. General Fremont assigned General Grant to the command of this district, with headquarters at Cairo, Illinois. General Grant immediately occupied Paducah, Kentucky, where General C. F. Smith was placed in command. Previous to this time General Grant had been operating in the vicinity of Ironton, Missouri. From there on August 9th he reported that cavalry was much needed. (W. R. 3, p. 432.)

In a letter to General Smith, September 10th, he stated that he could spare no cavalry, having but three companies, only one of which was fully armed. (W. R. 3, pp. 484–5.) He immediately urged upon General Fremont the necessity of supplying him with cavalry and cavalry equipments. (W. R. 3, p. 486.) What little cavalry he had was sent on a reconnoissance to Elliott's Mills, Kentucky, on September 15th. (W. R. 3, p. 495.)

General Grant's report of September 17th shows that his command, including the detachments at Bird's Point and Mound City, numbered 8,500 men, which included five companies of cavalry and 300 mounted men. (W. R. 3, p. 497.) He was ordered to send to General Asboth in Missouri a portion of this small force of cavalry, to which he objected. (W. R. 3, p. 511.)

On October 4th, General Grant's cavalry was increased by six companies of the Second Illinois Cavalry, which were unarmed (W. R. 3, p. 517), and remained so as late as October 27th. (W. R. 3, p. 554.) He anticipated that after receiving their arms, they would form a powerful auxiliary to his force, being much needed for reconnoissance.

On October 14th, General Grant organized his command into two brigades. (W. R. 8, p. 533.) He assigned five companies of cavalry to one brigade, and four to the other. On October 31st his cavalry numbered about 1,000 out of a total of about 11,000 men (W. R. 8, p. 558), which was increased by November 14th to twenty-one companies (W. R. 8. p. 570), about 1,260 men.

The cavalry of General Smith's command at Paducah was very poorly armed. He reported on November 6th that he had but four companies, and the carbines they had were old, and his requisitions for sabers and pistols had not been filled. (W. R. 4, p. 339.)

Prior to the advance against Fort Henry, General Grant had organized his force into three divisions (W. R. 7, p. 125), but the cavalry had remained attached to the brigades of General McClernand's division. (W. R. 7, p. 126.) In the attack on Fort Henry the cavalry seems to have been engaged, if at all, on picket duty. If not on picket duty, it was ordered kept in rear. (W. R. 7, p. 127.) It was also used in reconnoissance, and in the pursuit of the Confederates on their retreat to Fort Donelson. (W. R. 7, p. 129.)

In the capture of Fort Donelson the cavalry did little or nothing. In one case, a cavalry force was placed to guard the flank of a brigade. (W. R. 7, p. 174.) The cavalry was also used to some extent in reconnoissance (W. R. 7, p. 188), and when it was thought that the Confederates were going to escape, the cavalry was posted in position favorable for pursuit. (W. R. 7, p. 176.) The importance of its role may be best judged by its casualties, five wounded and two missing. (W. R. 7, p. 167.) This is partially accounted for by the stage of the water and the state of the roads. On February 8th, General Grant even said that he could not use a regiment of cavalry which General Halleck offered to send him. (W. R. 7, p. 596.)

In the parallel operations of General Pope along the Mississippi River, the cavalry had a better place in the organization. The cavalry was organized into a cavalry division under General Granger, one regiment and seven companies remaining unattached. The division contained three regiments. Owing to the character of the country and the operations, General Pope's cavalry did not do anything worthy of note. One battalion of cavalry took possession of Columbus when it was evacuated, March 3, 1862. (W. R. 7, pp. 682-3.)

After the capture of Fort Donelson, General Grant moved his army up the Tennessee River to Pittsburg Landing, where it arrived March 11th. On March 9th he reported his strength as 35,000, including about 3,000 cavalry. (W. R. 11, p. 21.)

On April 2d he reorganized his army, discontinuing brigade cavalry and artillery, and assigning the cavalry to the six divisions of the army, with an average of two battalions, or about 500 cavalry to the division. (W. R. 11, p. 87.)

Meanwhile, on March 8th, one battalion of cavalry was sent on an expedition west of Pittsburg Landing, and succeeded in destroying a bridge and trestle on the Mobile & Ohio Railroad. (W. R. 10, p. 10.) On March 17th General Sherman used his cavalry, supported by infantry, on a reconnoissance. It found the roads occupied in force by the Confederates. (W. R. 10, pp. 24-5.) On the 20th, General Sherman reported that eight companies of cavalry were posted in advance of his position. (W. R. 11, p. 53.) In the following few days, they were used in connection with the infantry on reconnoissance. (W. R. 10, pp 24-5.)

On March 27th, General Grant ordered four companies of cavalry on duty as a guard to the telegraph line. (W. R. 11, p. 70.) On March 31st, a small force of cavalry, twenty-eight, poorly armed, was sent toward Purdy. They were attacked and routed by the Confederates. (W. R. 10, pp. 78-9.) General Sherman ordered a reconnoissance of cavalry and infantry toward Corinth April 2d (W. R. 11, p. 87), and on the 3d sent 400 cavalry toward Monterey. (W. R. 10, p. 86.)

From the above it is seen that the cavalry accomplished little during the interval between the arrival at Pittsburg Landing and the battle of Shiloh, April 6th and 7th. When we consider the dispersion of the cavalry, giving but a small number to each division, this is not to be wondered at.

On April 4th and 5th, the cavalry was apparently being re-distributed in accordance with General Grant's reorganization order of April 2d (W. R. 11, pp. 92-3), which is a partial excuse for the surprise of the Federal army in the battle of Shiloh.

In this battle the cavalry seems to have done nothing. In General Sherman's division, it was posted in rear of the infantry. (W. R. 10, p. 249.) In General Hurlbut's division the cavalry was at first formed in line of battle, but was not engaged. (W. R. 10, p. 206.)

The only actual fighting done by the cavalry in the battle of Shiloh was done by two companies of regular cavalry, which were deployed as skirmishers on the right flank of the army to keep open the road for General Wallace. They held their ground against superior numbers until the arrival of General Wallace, when they were formed in rear of his flank. (W. R. 10, p. 169.)

The failure to use the cavalry seems to have been due to the fact that the ground was not suited to *mounted* action. (W. R. 10, pp. 206, 254.) No thought of dismounted action seems to have been entertained. The total casualties of the cavalry in the battle of Shiloh were four killed and twenty-five wounded. (W. R. 10, pp. 106-8.)

Immediately after the battle, a cavalry reconnoissance in the direction of Corinth was ordered (W. R. 11, p. 97), and cavalry pickets were ordered posted on all roads. (W. R. 11, p. 100.) The cavalry reconnoissance above ordered was supported by two brigades of infantry, and this was all that was undertaken in the way of pursuit of the Confederate army. When it came in contact with the Confederate rear guard, two companies of infantry were deployed as skirmishers and a regiment of cavalry was formed for action. At this juncture they were charged by the Confederate cavalry under General Forrest, and retreated hastily and in some disorder. They rallied on the troops in rear, and the cavalry charged the Confederates and drove them from the field. The Federal cavalry then advanced about a mile, but the check caused by the Confederate attack, approaching darkness, and the exhaustion of the infantry, caused a discontinuance of the movement. (W. R. 10, p. 639.)

On April 23d General Halleck ordered General Grant to send out his cavalry to reconnoiter. At this date General Pope arrived, and the army under General Halleck was organized into three corps, and a chief of cavalry was appointed on his staff. (W. R. 11, pp. 138–9.) These corps were placed under the command of Generals Pope, Grant and Buell. General Pope had previously organized his corps (army) into divisions, and had formed a cavalry division of two brigades of two regiments each, the division being commanded by General Granger. This cavalry division was ordered to habitually dispose itself in camp with a brigade on each flank of the infantry. (W. R. 11, pp. 121–2.) Twenty men were detailed at each division headquarters for duty as orderlies.

General Pope's report of April 30, 1862 (W. R. 11, p. 146), shows his corps to have been about 17,000 strong, including about 2,500 cavalry The corps of General Grant, with a present for duty of about 35,000, had the cavalry pretty uniformly distributed through the corps attached to the divisions. His cavalry numbered about 2,400. (W. R. 11, p. 151.) In General Buell's corps, the organization was the same as in General Grant's, and of his total force of 42,000, about 3,200 were cavalry. (W. R. 11, p. 148.)

The corps of General Pope is seen to be relatively stronger in cavalry than the other two. Moreover, it had a cavalry division, while the cavalry of the other two corps was distributed among the infantry divisions. The results achieved in the campaign against Corinth show that the concentration of the cavalry in a cavalry division was superior in point of organization under the conditions then existing.

On April 13th, a reconnoissance by forty-five cavalry was sent out on the Corinth and Purdy road. (W. R. 10, p. 647.) On April 14th, General Sherman reported an expedition of one hundred cavalry toward Iuka, Miss. It fought dismounted and drove a guard from the Memphis & Charleston Railroad bridge over Bear Creek, and destroyed the bridge. (W. R. 10, pp. 644–5.) General McClernand reported his cavalry on a reconnoissance toward Purdy April 27th. (W. R. 10, p. 652.) On April 28th General Pope reported that five companies of cavalry met 150 Confederate cavalry and chased them after a skirmish. (W. R. 10, p. 653.) The same day General Grant's entire cavalry force was ordered on a reconnoissance toward Purdy. (W. R. 11, p. 185.)

On April 29th a reconnoissance by four regiments of infantry and two regiments of cavalry was sent out to Monterey. One battalion of the cavalry charged a battery, but failed. (W. R. 10, p. 721.) On this date the general advance against Corinth commenced.

On May 3d General Wallace ordered his cavalry on an expedition to seize the Hatchie Bridge. This cavalry was then united with the remainder of the cavalry of the reserve, and a strong cavalry reconnoissance in the direction of Purdy ordered.

After the advance against Corinth was begun, General Buell's cavalry remained five miles in rear of the infantry as late as May 7th. This was by reason of the difficulty of supplying forage, and much of it was carried forward on the saddle horses. (W. R. 10, p. 673.) His

cavalry remained concentrated during the advance on Corinth (W. R. 10, p. 709), but reports indicate that no important results were achieved.

On May 30th General Buell reported that all of his cavalry was concentrated and ordered in pursuit of the Confederates after the evacuation of Corinth, but that the roads were obstructed and prevented effective pursuit. (W. R. 10, p. 676.) General Nelson reported that his cavalry encountered the Confederates three and one-half miles from Corinth, but did not attack. (W. R. 10, p. 683.)

All of the important service rendered by the cavalry in the advance against Corinth and in the pursuit after the evacuation was the work of General Granger's cavalry division of General Pope's corps (army). This cavalry division landed at Hamburg on April 23d, and immediately began scouting over the area south to the Memphis & Charleston Railroad. (See General Granger's report, W. R. 10, pp. 726–734. It is a brief report of the operations of his command from April 23 to June 10, 1862.) It encounted the same difficulties of supply as General Buell's cavalry, but was not deterred thereby from active operations. These operations were briefly as follows:

April 24th. Four battalions on reconnoissance to Greer's Ford.

April 27th. Four companies on reconnoissance toward Hamburg.

April 29th. One brigade on reconnoissance in force to Monterey. Attacked and drove Confederates to cover of artillery and then withdrew.

May 3d. One regiment destroyed track of Memphis & Charleston Railroad between Glendale and Burnsville. One battalion on reconnoissance toward Memphis & Charleston Railroad.

May 4th. Four companies on reconnoissance to Farmington. Attacked and defeated 300 Confederates.

May 8th. Three battalions on reconnoissance to Farmington. Struck Confederates and had to retreat. Three battalions on reconnoissance to the junction of the Purdy, Farmington and Corinth roads. Skirmished with small Confederate force.

May 9th. One regiment ordered to Farmington. There found infantry hard pressed. Charged three batteries to gain time for the infantry. Were repulsed with loss, but the charge enabled the infantry to withdraw.

May 10th to 15th. Various forces on reconnoissances in the direction of the Memphis & Charleston Railroad.

May 16th. Entire cavalry division on general reconnoissance, preparatory to the advance of the infantry.

May 17th. Entire command scouting. Infantry occupied Farmington.

May 19th. One battalion on reconnoissance south of Farmington.

May 22d. One company on outpost attacked. Held its ground until relieved.

May 22d to 24th. Reconnoissance by portions of two regiments to Iuka.

May 28th. One brigade on expedition to Boonville. Captured Boonville and a lot of supplies and ordnance, and destroyed railroad track.

May 30th. One brigade in pursuit of the Confederates. Tried to force crossing at Tuscumbia Creek, but failed.

June 1st. Confederates evacuated position at Tuscumbia Creek, and cavalry moved forward.

June 2d. Scouting in all directions waiting for infantry to come up. Reconnoissance in force to Baldwin.

June 3d. Seven companies on reconnoissance to Ripley. Charged one hundred Confederates at Blackland and defeated them.

June 4th. One brigade to Blackland, where it had a skirmish.

June 6th. One regiment on reconnoissance to Boonville. Fought dismounted with Confederate cavalry. Encountered infantry and had to retire.

June 9th. One brigade to Baldwyn. Found Confederates had evacuated. Two battalions ordered to Guntown. Fought with Confederate force till artillery opened fire and then withdrew.

During the retreat of the Confederates from Corinth, General Granger's cavalry captured 600 prisoners, 7,000 small arms and a large quantity of military stores. The operations of General Granger's cavalry are briefly alluded to in General Pope's reports. (W. R. 11, pp. 179, 181, 184.)

But little mention is made of the operations of the cavalry attached to the other corps of the army under General Halleck. On May 14th General Halleck ordered all of General Grant's cavalry on a reconnoissance toward Purdy in connection with General Wallace's cavalry. (W. R. 11, p. 189.) General Wallace complained that his cavalry was worn out by the constant strain of picket duty. (W. R. 11, pp. 192-3.)

On May 22d General Pope reported sending one and one-half regiments of cavalry on an expedition against the Confederates at Yellow Creek (W. R. 11, p. 208), and in the same report it is evident that cavalry vedettes were used in front of his line.

General Sherman (of General Grant's corps) sent his cavalry on an expedition to Chewalla on June 2d. They found that the Confederates had destroyed the bridge there, and the cavalry captured some engines, cars and other property. (W. R. 11, p. 240.)

In following up the retreating Confederate army, General Pope ordered General Rosecrans to keep his flanks well covered by the cavalry (W. R. 11, pp. 246-7), as the whereabouts of the Confederates were not accurately known. General Halleck did not contemplate pursuing the Confederates any farther than Baldwyn. (W. R. 11, p. 249.) This was based upon difficulties of supply, the same obstacle that General Grant encountered on his advance against Vicksburg. The Confederates had pretty thoroughly destroyed the Mobile & Ohio Railroad on their retreat.

On June 7th General Pope sent his cavalry on a reconnoissance around the flank of the Confederate position. On the 8th the cavalry reported that the Confederates had evacuated Baldwyn (W. R. 11, p. 274), and General Halleck ordered General Pope to discontinue the pursuit. (W. R. 11, p. 280.)

The army under General Halleck then engaged in restoring the railroads. The division of forces before noted, and General Halleck's

departure for Washington to assume command of all the armies, left General Grant in command at Corinth to prosecute the campaign against Vicksburg. During the period following the evacuation of Corinth, the Federal cavalry did effective work. An expedition was sent to Holly Springs, Miss., on June 19th, and the cavalry was sent on a scout twenty miles farther south. Fighting dismounted, they attacked the guard of the bridge over the Tallahatchie River. (W. R. 24, p. 8.) A later expedition of 315 cavalry, under Colonel Grierson, was sent to Hernando, Miss. They had a skirmish at Coldwater Bridge. They charged the Confederates, captured Coldwater and destroyed the supplies there. (W. R. 24, p. 9.)

Generals Forrest and Morgan, as well as Confederate guerilla forces, were active in the vicinity of Corinth at this time, and General Grant urged the need of additional cavalry to oppose them. (W. R. 24, p. 14; W. R. 25, p. 182.) On June 11th he ordered the organization of a cavalry brigade (W. R. 25, p. 4), but revoked the order on June 20th, and reassigned the cavalry to the divisions. (W. R. 25, p. 20.)

On July 1st twenty-two companies (728) of Federal cavalry were attacked by eight regiments of Confederate cavalry at Boonville. The fight lasted all day, and the Confederates were finally defeated. Most of the fighting seems to have been dismounted, but the Federal cavalry executed saber charges on the flanks and rear of the Confederate force. (W. R. 24, p. 17.) General Rosecrans cited this action as showing the importance of keeping the cavalry massed and to the front. (W. R. 25, p. 73.)

At Holly Springs, July 1st, the cavalry, while acting as the advance guard for a brigade, fought dismounted and drove back a superior force of Confederates. (W. R. 24, p. 21.) On July 29th seventy-five Federal cavalry attacked and routed some Confederate cavalry near Denmark, Tenn., but were attacked and defeated later in the day by a superior force of Confederates. (W. R. 24, p. 27.)

August 7th, fifty Federal cavalry surprised and routed one company of Confederate cavalry at Dyersburg, Tenn. (W. R. 24, pp. 29-30), and on August 16th one company attacked and routed 150 Confederate cavalry on the Obion River, Tenn. (W. R. 24, p. 31.) The same day Colonel Sheridan started on a reconnoissance with a brigade of cavalry to Carrollton and Guntown, Miss. (W. R. 25, p. 175.)

August 19th to 21st an expedition consisting of 300 cavalry was sent from Rienzi, Miss., to Marietta and Bay Springs. They had several skirmishes on the way, but no serious action. (W. R. 24, p. 35.) In a skirmish near Rienzi August 27th, the Confederate force was routed. (W. R. 24, p. 41.)

The cavalry was kept on the move most of the time, and the lack of forage and water, together with the trying nature of the duty, had the effect of wearing the cavalry out. (W. R. 24, p. 40.) However, continued success spurred it on to further efforts.

On August 30th, in a skirmish near Bolivar, Tenn., six companies of Federal cavalry executed a successful mounted charge (W. R. 24, p. 44), and on September 1st, at the same place, a brigade of cavalry attacked a Confederate force of two regiments of infantry, two squad-

rons of cavalry and two pieces of artillery, capturing the artillery and 200 prisoners. (W. R. 24, p. 51.)

During September the principal Federal cavalry forces were at Jackson (2,100) and at Corinth (2,800). With General Sherman at Memphis was Colonel Grierson with 700 cavalry. (W. R. 25, pp. 245–6.)

September 5th and 6th Colonel Grierson was on a scout with 160 cavalry. At Olive Branch, Miss., being attacked by a superior force of Confederates, he fought dismounted and repelled the attack. Mounting, he charged and drove the Confederates back in confusion on their reserves, but was then compelled to retire. A Federal cavalry brigade then came up, and the Confederates were defeated. (W. R. 24, pp. 55–6.)

Shortly after this, at Cockram's Cross Roads, Miss., Colonel Grierson, with 350 cavalry, attacked and routed 1,000 Confederate cavalry. The attack was made dismounted, driving the Confederates from their position. The Federal cavalry then mounted and charged on the flanks, finally routed the Confederates and pursued them as far as Senatobia, then returning to Memphis. (W. R. 24, pp. 58–9.)

In the battle of Iuka, September 19, 1862, the cavalry division under Colonel Mizner was used to cover the Federal advance and to develop the Confederate position, and was used in observation and on the flanks during the battle, one regiment and four companies engaging dismounted. Upon the retreat of the Confederates, all of the cavalry was sent in pursuit on various roads. The retreat was harassed, but in the principal rear guard action, the Federal cavalry was roughly handled, encountering artillery. One regiment, fighting dismounted, was drawn upon a masked battery and had to retire, but was able to repulse a cavalry charge launched at it immediately afterwards.

General Granger commended the usefulness and efficiency of the cavalry in covering movements before, and protecting the flanks during the battle (W. R. 24, pp. 113–115, 139–40), and General Grant spoke of the work of the cavalry as being well done. (W. R. 24, p. 64.) The casualties of the cavalry in the battle of Iuka were only one killed and eight wounded. (W. R. 24, p. 78.)

On September 19th, at Peyton's Mills, one regiment of Federal cavalry, fighting dismounted, defeated a regiment of Confederate cavalry. (W. R. 24, p. 138.) On September 27th 270 Federal cavalry were surprised, and part of them were captured at Davis' Bridge, Tenn. (W. R. 24, p. 143.)

In the period preceding the battle of Iuka, the information duty had been well performed by the cavalry, and for the first time we find the Federal forces acting in the light of timely and complete information. Emboldened by success, the cavalry was to render still more important service in the battle of Corinth, October 3–4, 1862. When the Confederate army approached Corinth, strong parties of Federal cavalry were out on all the roads, especially south and west of Corinth, and various reconnoissances gave information of the Confederate movements. One battalion of cavalry even routed the rear guard of the Confederate army at Ruckersville during its advance. On October 3d Colonel Hatch's brigade of cavalry was reconnoitering north and west of Corinth.

In the battle, one brigade of cavalry was in rear of the left wing, four companies skirmishing dismounted. One regiment and one battalion guarded the right flank of the line.

When the Confederates retreated, the cavalry formed two columns of one brigade each, following on either flank, and making dashes when opportunity offered. One battalion of cavalry formed the advance guard of General McPherson's column, engaging the Confederate rear guard three times, capturing prisoners, horses, and arms. One battalion of cavalry formed the advance guard of General MacArthur's column, and these two battalions were united as the rear guard of the entire force on the return from Ripley, at which point the pursuit was discontinued. One battalion and two companies of cavalry were left at Corinth during the pursuit.

The brigades of cavalry on the flanks skirmished almost continuously during the pursuit. The entire cavalry division was united at Ripley October 9th, and engaged in extensive reconnoissances around Ripley. It remained there until the main force of General McPherson returned to Corinth, when the cavalry division returned to that point also.

The wooded nature of the country prevented the participation in the engagements, but the service of the cavalry was invaluable in the approach and in the pursuit of the Confederates. (General Mizner's report, W. R. 24, pp. 242–5.)

The pursuit was in accordance with the orders of General Rosecrans, (W. R. 25, pp. 265–6, 271) to whom apparently much credit is due for appreciating the power and proper use of the cavalry, and for maintaining an effective organization enabling his cavalry to exert its strength. He now bestirred himself to get it properly armed (W. R. 25, pp. 281, 282, 284), but was shortly ordered to Kentucky to relieve General Buell of his command.

The stampede due to General Bragg's invasion of Kentucky being over, and the Confederate forces in Mississippi defeated, it became possible for General Grant to undertake the offensive against Vicksburg. The first attempt was to be made along the line of the Mississippi Central Railroad, along which the Confederates retreated after the defeat at Corinth.

The cavalry division, now under Colonel Lee, an able officer, entered Holly Springs November 13th (W. R. 25, pp. 470, 488–9), after skirmishing all day with five regiments of Confederate cavalry (W. R. 24, p. 489), continuing with a scouting party of 1,000 cavalry to Ripley. (W. R. 24, p. 490.)

On November 26th, Colonel Dickey assumed command of the cavalry division, now of three brigades, and sent one brigade each to report to Generals Hamilton, McPherson and Sherman (W. R. 25, pp. 363–4), but concentrated them again on December 3d for the pursuit of the Confederates retiring on Coffeeville from Oxford. The three brigades reached Water Valley December 4th. General Hatch's brigade was attacked by eight regiments of Confederate cavalry at Water Valley and drove them off. One of the other Federal cavalry brigades, unfortunately provided with gray overcoats, approached at this juncture to

rons of cavalry and two pieces of artillery, capturing the artillery and 200 prisoners. (W. R. 24, p. 51.)

During September the principal Federal cavalry forces were at Jackson (2,100) and at Corinth (2,800). With General Sherman at Memphis was Colonel Grierson with 700 cavalry. (W. R. 25, pp. 245–6.)

September 5th and 6th Colonel Grierson was on a scout with 160 cavalry. At Olive Branch, Miss., being attacked by a superior force of Confederates, he fought dismounted and repelled the attack. Mounting, he charged and drove the Confederates back in confusion on their reserves, but was then compelled to retire. A Federal cavalry brigade then came up, and the Confederates were defeated. (W. R. 24, pp. 55–6.)

Shortly after this, at Cockram's Cross Roads, Miss., Colonel Grierson, with 850 cavalry, attacked and routed 1,000 Confederate cavalry. The attack was made dismounted, driving the Confederates from their position. The Federal cavalry then mounted and charged on the flanks, finally routed the Confederates and pursued them as far as Senatobia, then returning to Memphis. (W. R. 24, pp. 58–9.)

In the battle of Iuka, September 19, 1862, the cavalry division under Colonel Mizner was used to cover the Federal advance and to develop the Confederate position, and was used in observation and on the flanks during the battle, one regiment and four companies engaging dismounted. Upon the retreat of the Confederates, all of the cavalry was sent in pursuit on various roads. The retreat was harassed, but in the principal rear guard action, the Federal cavalry was roughly handled, encountering artillery. One regiment, fighting dismounted, was drawn upon a masked battery and had to retire, but was able to repulse a cavalry charge launched at it immediately afterwards.

General Granger commended the usefulness and efficiency of the cavalry in covering movements before, and protecting the flanks during the battle (W. R. 24, pp. 113–115, 139–40), and General Grant spoke of the work of the cavalry as being well done. (W. R. 24, p. 64.) The casualties of the cavalry in the battle of Iuka were only one killed and eight wounded. (W. R. 24, p. 78.)

On September 19th, at Peyton's Mills, one regiment of Federal cavalry, fighting dismounted, defeated a regiment of Confederate cavalry. (W. R. 24, p. 138.) On September 27th 270 Federal cavalry were surprised, and part of them were captured at Davis' Bridge, Tenn. (W. R. 24, p. 143.)

In the period preceding the battle of Iuka, the information duty had been well performed by the cavalry, and for the first time we find the Federal forces acting in the light of timely and complete information. Emboldened by success, the cavalry was to render still more important service in the battle of Corinth, October 3–4, 1862. When the Confederate army approached Corinth, strong parties of Federal cavalry were out on all the roads, especially south and west of Corinth, and various reconnoissances gave information of the Confederate movements. One battalion of cavalry even routed the rear guard of the Confederate army at Ruckersville during its advance. On October 3d Colonel Hatch's brigade of cavalry was reconnoitering north and west of Corinth.

In the battle, one brigade of cavalry was in rear of the left wing, four companies skirmishing dismounted. One regiment and one battalion guarded the right flank of the line.

When the Confederates retreated, the cavalry formed two columns of one brigade each, following on either flank, and making dashes when opportunity offered. One battalion of cavalry formed the advance guard of General McPherson's column, engaging the Confederate rear guard three times, capturing prisoners, horses, and arms. One battalion of cavalry formed the advance guard of General MacArthur's column, and these two battalions were united as the rear guard of the entire force on the return from Ripley, at which point the pursuit was discontinued. One battalion and two companies of cavalry were left at Corinth during the pursuit.

The brigades of cavalry on the flanks skirmished almost continuously during the pursuit. The entire cavalry division was united at Ripley October 9th, and engaged in extensive reconnoissances around Ripley. It remained there until the main force of General McPherson returned to Corinth, when the cavalry division returned to that point also.

The wooded nature of the country prevented the participation in the engagements, but the service of the cavalry was invaluable in the approach and in the pursuit of the Confederates. (General Mizner's report, W. R. 24, pp. 242–5.)

The pursuit was in accordance with the orders of General Rosecrans, (W. R. 25, pp. 265–6, 271) to whom apparently much credit is due for appreciating the power and proper use of the cavalry, and for maintaining an effective organization enabling his cavalry to exert its strength. He now bestirred himself to get it properly armed (W. R. 25, pp. 281, 282, 284), but was shortly ordered to Kentucky to relieve General Buell of his command.

The stampede due to General Bragg's invasion of Kentucky being over, and the Confederate forces in Mississippi defeated, it became possible for General Grant to undertake the offensive against Vicksburg. The first attempt was to be made along the line of the Mississippi Central Railroad, along which the Confederates retreated after the defeat at Corinth.

The cavalry division, now under Colonel Lee, an able officer, entered Holly Springs November 13th (W. R. 25, pp. 470, 488–9), after skirmishing all day with five regiments of Confederate cavalry (W. R. 24, p. 489), continuing with a scouting party of 1,000 cavalry to Ripley. (W. R. 24, p. 490.)

On November 26th, Colonel Dickey assumed command of the cavalry division, now of three brigades, and sent one brigade each to report to Generals Hamilton, McPherson and Sherman (W. R. 25, pp. 363–4), but concentrated them again on December 3d for the pursuit of the Confederates retiring on Coffeeville from Oxford. The three brigades reached Water Valley December 4th. General Hatch's brigade was attacked by eight regiments of Confederate cavalry at Water Valley and drove them off. One of the other Federal cavalry brigades, unfortunately provided with gray overcoats, approached at this juncture to

reinforce General Hatch. They were mistaken for Confederates and General Hatch withdrew. The time lost by this mistake prevented General Hatch from following up his success.

Colonel Hatch's report of the action at Water Valley (W. R. 24, pp. 499–502) states that after capturing the town he was attacked by a mixed Confederate force, and twelve companies formed dismounted to receive the attack, which was made in front and on both flanks, and was repulsed. He then extended both of his flanks and attacked the Confederates and defeated them.

The entire cavalry division moved forward on a single road December 5th. Near Coffeeville a heavy force of Confederate infantry and artillery was encountered by the dismounted skirmishers. After heavy fighting the Federal cavalry was driven back one and one-half miles, most of the fighting being dismounted. The Federal cavalry retired to its camps of the night before. December 6th they remained in observation on the Otuck River.

The narrow roads, with woods on both sides, made operations difficult, but the cavalry had captured 750 prisoners on the advance and had saved the railroad bridges from destruction. Under orders from General Grant (W. R. 25, pp. 410–11) to destroy the Mobile & Ohio Railroad as far south as possible, Colonel Hatch, with 800 picked men, started eastward on December 14th, the rest of his brigade being sent to camp on the Yockna River. One battalion was sent from Paris to make a demonstration toward Grenada. The remaining two brigades under Colonel Mizner were to guard the Otuck River and make a strong demonstration toward Grenada via Coffeeville.

The force under Colonel Hatch marched via Pontotoc to Tupelo, detaching one hundred men to destroy the Coonewar bridge. Colonel Hatch spent December 16th and 17th destroying thirty-four miles of the Mobile & Ohio Railroad from Saltville to Okolona, and a large bridge south of Okolona. On the return he reached Pontotoc December 17th. There he avoided a large force of Confederate cavalry, fearing to engage on account of the worn out condition of his command. He reached Oxford December 19th, his men and horses completely worn out and temporarily unfit for duty. The expedition had lived on the country during the period, and had not lost a man. (Colonel Dickey's report, W. R. 24, pp. 491–9.)

On December 19th General Grant ordered General Mizner with all the available cavalry at Water Valley in pursuit of the Confederate cavalry under General Jackson (W. R. 25, p. 439), but before this move was inaugurated attention was turned to General Van Dorn, who had captured Holly Springs December 20th. Apparently all of the cavalry everywhere was ordered after him (various telegrams, W. R. 25, pp. 448–455), but all efforts were unsuccessful. (W. R. 24, pp. 502, 518, 519; W. R. 25, pp. 498–9.)

The pursuit of General Van Dorn was given up December 27th. About one hundred of the Second Illinois Cavalry were captured at Holly Springs. (W. R. 24, pp. 512–18.) The rest of the regiment took part in the pursuit. (W. R. 24, pp. 514–15.) The regiment fought well at Holly Springs and part of it cut its way out, being praised for its action by General Grant. (W. R. 24, pp. 515–16.)

Meanwhile an expedition from Helena, Arkansas, was directed against the Mississippi & Tennessee Railroad November 26th to December 7th. The principal work of the expedition was done by a cavalry command numbering about 1,900 men under General Washburn, accompanied part of the way by infantry. The cavalry struck the railroad at Garner Station and did some damage on the Mississippi & Tennessee and on the Mississippi Central Railroads, and then returned to Helena. (W. R. 24, 533–9.)

A mixed force was sent from Corinth against the Mobile & Ohio Railroad at Tupelo, December 13th to 19th. (W. R. 24, p. 544.)

General Forrest attempted to create a diversion by a raid into western Tennessee in the early part of December. He failed in his object of drawing the Federal cavalry from Mississippi. All garrisons were warned to be on the lookout, and the cavalry available in Tennessee was sent after him, but his raid was not permitted to seriously disarrange plans. A Federal cavalry force of 600 was defeated by General Forrest at Lexington, Tennessee, December 18th. (W. R. 24, pp. 533–4.)

When General Sherman started on his expedition against Vicksburg on December 20th he took from Memphis only 200 cavalry. He sent the 2,000 cavalry at Helena on the expedition against the Mississippi & Tennessee R. R. above noted. (W. R. 24, p. 605.) The cavalry took no part in the assault on Chickasaw Bluffs December 29th. After this battle General Sherman retired to Milliken's Bend, where General McClernand took command January 4, 1863, and shortly undertook an expedition against Arkansas Post with 32,000 infantry and 1,000 cavalry. (W. R. 25, p. 553.) A small force of cavalry (forty) was used in reconnoitering Arkansas Post January 10th, and a force 300 strong was sent on reconnoissance immediately after in the direction of White River and St. Charles. (W. R. 24, pp. 719–20.)

After the capture of Arkansas Post, January 11th, General McClernand was ordered to return to the Mississippi River and to be prepared to move against Vicksburg. General Grant assumed command in person, and the army was largely reinforced. No statement of the strength of the cavalry of General Grant's army at this date has been found. The return of January 31, 1863, shows one brigade of cavalry (2,000) at La Grange, Tennessee, and one brigade (3,000) at Germantown, Tennessee. (W. R. 38, p. 20.) General Grant evidently contemplated securing the assistance of the cavalry in his Vicksburg campaign by operations directed from Memphis by General Hurlburt, who was in command at that place. To this end, General Grant on March 9th directed Colonel Dickey to report to General Hurlburt, and ordered that all cavalry be put in condition for heavy service to operate south from La Grange. (W. R. 38, p. 95.)

The report of the organization of the army before Vicksburg shows that in general each corps and division commander had one company of cavalry as an escort, while four regiments of cavalry were unattached. (W. R. 37, pp. 149–58.) This, from the average strength of the regiments at that time, would give the cavalry strength of General Grant's army as about 1,500 men.

Of this cavalry it is impossible to find any operations worthy of note. It was used to some extent in scouting in advance of the columns after the capture of Port Gibson. In that action twenty-one companies of cavalry were present, but apparently took no part, the sum total of the casualties being one wounded. (W. R. 36, pp. 582–5.) On May 11th one regiment was sent on an expedition against the Jackson & New Orleans Railroad, destroying one and one-half miles of track and telegraph. (W. R. 36, p. 701.) One battalion of cavalry was with General McPherson's corps, and was used in reconnoissance most of the time during the advance. It was also used to pick up stragglers and to escort trains. (W. R. 36, pp. 734–6.)

The regiment with General Sherman led his advance against Vicksburg (W. R. 36, p. 753), and was sent forward to seize Haynes Bluff, to be used as a base of supply. (W. R. 36, p. 755.) In the battle of Champion's Hill the cavalry drove in the Confederate vedettes. They also executed a charge which was unsuccessful. (W. R. 37, pp. 28–9.) This is the only reported instance of actual participation by the cavalry of the army of General Grant in any battle in the advance against Vicksburg.

When General Grant had completed the investment of Vicksburg his force was rapidly increased. A portion of his infantry and all of his cavalry were used to cover the interval between the Big Black River and the Yazoo, there being constant fear of an attack by General Johnston, who was assembling a force at Jackson, Miss. Of this cavalry outpost a small force (130) was defeated near Birdsong Ferry on June 22d by a superior force of Confederates. (W. R. 37, pp. 509–10.)

From the cavalry under General Hurlburt at Memphis General Grant received the greatest assistance. This force was formidable in numbers, and was used vigorously against the principal aggregations of Confederate cavalry, and to suppress guerilla operations.

On March 31st one division of cavalry was at Helena, Arkansas, under General Washburn, and one division in Tennessee. Of the latter, one brigade was at La Grange and one at Germantown. (W. R. 38, p. 168.) General Washburn was on April 3d ordered to command all of the cavalry in western Tennessee. (W. R. 38, p. 169.) General Hurlburt complained to General Grant that he needed 1,500 good cavalry horses, those sent him having been rejected. (W. R. 38, p. 174.) On April 10th General Washburn requested General Prentiss, in command at Helena, to lend him 1,000 cavalry, and on May 5th General Grant ordered General Prentiss to send all of his cavalry, except two regiments, to General Hurlburt at Memphis. (W. R. 38, p. 273.) This increased the total of the cavalry force in the vicinity of Memphis to 6,100 on June 30th (W. R. 38, pp. 452–3), of which 700 were at Memphis, 1,900 at Corinth and 3,500 at Germantown.

Thus it is seen that the principal cavalry force during the campaign against Vicksburg was under the command of General Hurlburt, under orders from General Grant to further as much as possible by its operations the movement against Vicksburg.

One or two small and unimportant expeditions were sent out in January and February, 1863, but with the beginning of March the cavalry became active and aggressive.

The principal Confederate cavalry forces in northern Mississippi were under the command of Generals Jackson and Chalmers. Most of the scouts and expeditions sent out from La Grange were against these two forces, and to protect the Memphis & Charleston Railroad from them and from the depredations of guerilla forces. The record of these operations must be brief.

Colonel Grierson, on an expedition with 900 cavalry March 8th to 12th, in a skirmish near Covington, Tennessee, defeated a Confederate force. (W. R. 36, p. 423.) The Sixth Illinois Cavalry scouted along the railroad from La Grange to Saulsbury March 21st to 22d (W. R. 36, pp. 471-2), and shortly after this two forces, each of 200 cavalry, started from La Grange to Moscow and to Somerville. One of these parties was surprised, but succeeded in beating off the attack. Colonel Grierson took a brigade of cavalry and scoured the country, but failed to find the Confederate force that made the attack. (W. R. 36, pp. 481–3.)

These expeditions now took on a more formidable character. Colonel Grierson's famous ride started from La Grange on April 17th, and ended at Baton Rouge May 2d. Its beginning was covered by general demonstrations along the line of the Memphis & Charleston Railroad (W. R. 36, pp. 520–1), and was made simultaneously with Colonel Streight's raid from the front of General Rosecrans' army. The principal of the covering demonstrations was an expedition sent from Corinth to Tupelo, April 15th to May 8th, consisting of 4,000 infantry and 1,500 cavalry. In a skirmish at Tupelo, May 5th, the cavalry attacked both mounted and dismounted, and defeated the Confederates. (W. R. 34, p. 241.)

Colonel Grierson left La Grange with 1,700 men. He proceeded southward through central Mississippi. On April 20th he sent back a detachment of 175 men with the prisoners and captured property. From near Houston 500 men under Colonel Hatch were sent on a detour east and north with orders to return to La Grange. At Palo Alto in an engagement, Colonel Hatch had one company captured, and he had continual skirmishing for some days, but finally got back safely with the rest of his command.

The main column of Colonel Grierson, now numbering 950 men, continued southward, finally arriving at Baton Rouge May 2d. The latter part of the march was attended with much difficulty on account of the concentration of the Confederates against Colonel Grierson. The net result of this raid was the capture of 500 prisoners, the destruction of over fifty miles of railroad and telegraph, of over 3,000 stands of arms and an immense amount of property, and the capture of over 1,000 horses and mules. (Campaigns and battles, U. S. M. A. Pamphlet, pp. 47–50; W. R. 36, pp. 520–1, 521–9.)

Colonel Grierson's operations were considered one of the most brilliant cavalry exploits of the war. (W. R. 36, pp. 34, 58.) He had no sooner arrived at Baton Rouge than General Grant began to try to get him back. He made several requests to General Banks to send him back (W. R. 38, pp. 289, 346–7, 492–3), but General Banks was very deficient in cavalry and found Colonel Grierson so useful (W. R. 38, pp. 360, 366–7) that it was not until July 18th that Colonel Grierson's com-

mand finally reached Vicksburg. (W. R. 38, p. 528.) It was immediately sent to Memphis to report to General Hurlburt. Colonel Grierson was then assigned as General Hurlburt's chief of cavalry. (W. R. 38, p. 550.)

To distract attention from Colonel Grierson, and in the hope of finding General Chalmers, an expedition of 1,300 cavalry was sent from La Grange into northern Mississippi, April 29th to May 5th, but nothing was accomplished (W. R. 38, p. 579), and an expedition under Colonel Hatch, consisting of 500 cavalry and 300 infantry was no more successful. (W. R. 38, pp. 702–3.)

Two brigades of cavalry left La Grange May 21st after General Chalmers. They found and defeated him in a skirmish at Senatobia Swamp May 26th. (W. R. 37, pp. 427–8.) Several small expeditions were sent from Memphis to Hernando May 23d to 28th, but they accomplished nothing. (W. R. 37, pp. 429–32, 443–4.)

An expedition of 1,400 cavalry from Corinth May 26th to 31st captured Florence after a slight skirmish. (W. R. 34, pp. 349–51.)

At Mud Creek, June 20th, a force of about 125 cavalry had a severe fight with a superior force of Confederates, but finally repulsed the attack. (W. R. 37, pp. 490–1.) Three brigades of cavalry were sent on an expedition into northwestern Mississippi after General Chalmers, June 15th to 25th. This force had several skirmishes and destroyed much property, but failed to catch General Chalmers. (W. R. 37, pp. 490–2.)

At Hernando, Miss., June 18th (about), a force of 100 Federal cavalry was surrounded, surprised, and captured. (W. R. 38, p. 423.) This is one of the few reverses suffered by the Federal cavalry in Mississippi in this year.

Immediately after the capture of Vicksburg, General Grant ordered General Sherman with three infantry corps to proceed against General Johnston at Jackson, Miss., and ordered practically all of the cavalry to go with him. (W. R. 38, p. 471.) General Sherman ordered the cavalry to proceed via Brownsville, Bolton, and Clinton. (W. R. 38, pp. 481–2.) This cavalry formed General Sherman's advance, and skirmished frequently with the Confederates July 6th to 10th, the principal skirmishes being at Clinton, July 8th, and around Jackson July 9th and 10th. From July 10th to 17th, the cavalry was engaged in destroying the railroad north and south of Jackson to prevent its further use by the Confederates. (W. R. 37, pp. 551, 577–9; W. R. 38, p. 496.) General Johnston evacuated Jackson on July 16th, and no pursuit was attempted on account of the hot weather and the lack of water. General Sherman's whole force then returned to the vicinity of Vicksburg.

July 7th and 8th a brigade of cavalry was on a reconnoissance from Corinth to Iuka. It found the Confederates in force at Iuka. Most of the brigade made a dismounted attack, the reserve remaining mounted. The Confederate force was defeated. (W. R. 37, p. 663; W. R. 38, p. 518.)

On July 13th at Jackson, Tenn., a force of 1,200 cavalry under Colonel Hatch had a severe skirmish with the Confederates and defeated them. (W. R. 37, pp. 673–4.)

A brigade of cavalry scouted through southwestern Tennessee July 16th to 20th, but found no Confederate force. (W. R. 37, pp. 682–3.) At

this time General Grant sent a large portion of his force to General Banks at Port Hudson, to Memphis, and to Virginia, and the scene of activity passed to Arkansas and to eastern Tennessee. The return of July 31, 1863, shows 600 cavalry at Vicksburg, 1,250 on the Big Black River, and 5,100 at La Grange, Tenn.

Cavalry expeditions were sent out from the Big Black River August 10th to 22d, 800 strong, and from Memphis, August 12th to 23d, 1,500 strong. These met at Grenada August 17th, where a skirmish with the Confederates occurred. The two expeditions then separated and proceeded by different routes to Memphis. They destroyed most of the rolling stock on the Mississippi Central Railroad. (W. R. 38, pp. 578–9; W. R. 50, pp. 7–8, 11–24.) The cavalry at Memphis was reorganized into a division of three brigades August 20th. (W. R. 52, pp. 82–3.)

During the remainder of August and September, there was little activity among the cavalry in western Tennessee and in Mississippi. September 14th three regiments of cavalry were ordered to Memphis to proceed to Vicksburg. (W. R. 52, p. 622.)

In October, the Confederate cavalry under General Chalmers became active, making a raid October 4th to 17th against the Memphis & Charleston Railroad. He attacked a brigade of Federal cavalry at Lockhart's Mills, Tennessee, October 5th, but was repulsed. The Federal cavalry was then concentrated at La Grange and started in pursuit. One brigade and one regiment of Federal cavalry were attacked at Salem October 8th and driven out. October 10th the pursuit began in earnest. General Chalmers was attacked near Collierville October 12th and dislodged by a flank movement. The pursuit was continued via Hernando to Wyatt, Miss., where the Confederates made a stand October 13th. The action went against the Confederates and they retreated during the night. The pursuit was then discontinued on account of the scarcity of ammunition. (W. R. 51, pp. 740–3.)

General Chalmers again appeared at Collierville November 3d. He attacked Colonel Hatch's brigade of cavalry and was repulsed and pursued. The Federal cavalry fought both mounted and dismounted. (W. R. 54, p. 243.) The effective cavalry force in the vicinity of Memphis at this time was about 5,700 men. (W. R. 51, p. 472.)

November 12th General Hurlburt ordered his cavalry to take station so as to cover the Memphis & Charleston Railroad, to protect General Sherman's communications during his march to Chattanooga.

General Chalmers executed a third raid against the railroad in the early part of December. He attacked and defeated a brigade of Federal cavalry at Ripley, Miss., December 1st. Continuing, he attacked Saulsbury December 2d, and was defeated. He encountered Colonel Hatch's brigade near Moscow December 3d and 4th, where a brief but severe engagement was fought, and the Confederates were repulsed. (W. R. 54, pp. 576–90.) The Federal cavalry spent the remainder of the month in scouting without any incident worthy of note.

General McPherson, in command at Vicksburg, had a force of about 2,100 cavalry. It was sent on several expeditions from its station on the Big Black River, but was uniformly unsuccessful. General McPherson said that his cavalry was inferior in morale to the Confederate cavalry.

Every time it was sent out it was stopped without accomplishing any thing, and as a result it had become timid. (W. R. 54, p. 749.)

The cavalry of the Military Division of the Mississippi came under the command of General W. S. Smith by his appointment as chief of cavalry by General Grant on November 11th. The further operations of this cavalry may therefore properly be recounted under the operations from Chattanooga.

VIA NASHVILLE TO CHATTANOOGA.

It has been seen that three principal Federal forces were concentrated in Kentucky in 1861, all of which eventually fell under the command of General Buell in the advance into Tennessee in 1862.

The main force at Camp Nolin had with it as late as November 4, 1861, but one regiment of cavalry, and the division at Camp Dick Robinson had with it a like force. (W. R. 4, pp. 333–4). The force under Colonel Garfield, operating in eastern Kentucky, consisted on January 4, 1862, of one brigade, numbering 1,800 infantry and 600 cavalry. (W. R. 7, pp. 21, 27–8.)

Colonel Garfield's Operations.

On January 7th, at Jennie's Creek, a Federal cavalry force numbering 300 attacked the outpost of General Marshall's force and drove it off the field. The cavalry seems to have taken no part in the fight at Prestonburg, the principal action of Colonel Garfield's campaign.

In his advance, the cavalry was used in scouting, and a small force of cavalry (110) was sent on an expedition to Piketon. (W. R. 7, p. 34.)

The cavalry of Colonel Garfield's command seems to have been armed with sabers, navy revolvers, and breech-loading rifled carbines. (W. R. 7, p. 46). However, it was unreliable, and was spoken of disparagingly in his reports. (W. R. 7, pp. 26–27, 32.)

The last operation of Colonel Garfield was an expedition to Pound Gap in March, 1862. The force engaged was 600 infantry and 100 cavalry. The Confederate force guarding the Gap was defeated. In the attack, the cavalry struck the front of the position and was unsuccessful. In the retreat consequent upon the success of the Federal infantry, the cavalry pursued a distance of six miles. (W. R. 10, p. 33.)

Operations From Camp Dick Robinson.

Of the cavalry under General Thomas, nothing but caustic criticism is to be found. Its most creditable action was at Rock Castle Hills, October 21st, where 250 cavalry fought dismounted. Under fire, they wavered and retreated, but re-formed and fought fairly well.

The most of General Thomas's cavalry was with General Schoepf, in advance at Camp Wildcat. Of these, two companies were used to guard a ford near Mill Springs. (W. R. 7, p. 8.)

After a skirmish near Somerset, Kentucky, December 8, 1861, General Schoepf reported: "The cavalry under my command, as usual, behaved badly. They are a nuisance and the sooner they are disbanded the better. * * * Is there no such thing as obtaining a regiment of *reliable* cavalry?" (W. R. 7, pp. 8–9.)

In the battle of Mill Springs, January 19, 1862, the one battalion of cavalry with General Thomas was on picket duty at the time of the Confederate attack. (W. R. 7, p. 79). They fell back and formed dismounted to resist the attack. Coming under fire, they again fell back and found their horses surrounded by the Confederates. The horses were cut loose and driven to the rear, where they were caught. The cavalry, having secured their horses, again formed and took part in the engagement. (W. R. 7, p. 100.)

On February 14th, two companies of cavalry were sent on a reconnoissance in the direction of Cumberland Gap. (W. R. 7, p. 417.) About this time General Thomas was ordered to join General Buell, and General Morgan assumed command of the force operating against Cumberland Gap. His force was constituted the Seventh Division, and had with it one battalion of cavalry which was used with one regiment of infantry as the advance guard in the advance to Cumberland Gap. (W. R. 10, p. 57). This battalion is also mentioned as having done good work throughout the campaign on picket duty, in scouting for the entire division, and on advance and rear guard duty. (W. R. 10, p. 61.) The battalion was sent to convoy an incoming train of supplies to Cumberland Ford on May 6th.

After the occupation of Cumberland Gap, June 19th, General Morgan was on the defensive, and he accomplished nothing except to worry the authorities at Washington for reinforcements at a time when they were fully occupied with other things.

When General Kirby Smith advanced into Kentucky in the latter part of August, General Morgan evacuated Cumberland Gap and retreated north to the Ohio River.

General Buell's Operations.

It has been seen that the main force concentrated at Camp Nolin, Kentucky, had but one regiment of cavalry at the beginning of November, 1861. On December 30th a small force of cavalry (168) from General Crittenden's command was surprised and defeated at Calhoun, Kentucky, but the reports of the action indicate that the cavalry fought fairly well. (W. R. 7, pp. 62–3.)

General Buell's report of January 23, 1862 (W. R. 7, p. 563), shows that of his total force of 62,000 infantry and 7,500 cavalry, he regarded only 41,500 infantry and 2,500 cavalry as fit for field duty. A later report of February 14, 1862 (W. R. 7, p. 611), states that two companies of regular cavalry, numbering eighty-eight men, were the only cavalry in the department completely armed, equipped and mounted. What cavalry General Buell had was assigned to three of the five divisions of his army. (W. R. 7, pp. 467–8.)

His report of March 14, 1862 (W. R. 11, p. 37), shows the force at Nashville to have been 55,000 men. It was organized into divisions, and had one cavalry regiment to each division. (W. R. 11, pp. 614–5.)

He complained that only three of his regiments of cavalry were fully armed, and stated that some were armed with sabers and rifles, some with sabers and muskets, and some with sabers and pistols. (W. R. 11, p. 616.) From March 11th to the end of July General Buell's main force was operating under the command of General Halleck in western Tennessee.

On April 17th General Buell ordered four companies of cavalry to the north border of Tennessee to prevent marauding. (W. R. 11, p. 110.)

With General Mitchel's division, sent forward to Fayetteville, was one regiment of cavalry, 784 strong. From the time of General Buell's departure from Nashville until his recall by General Bragg's invasion of Kentucky, General Mitchel was advancing as far as Huntsville, Alabama, which point he reached April 17, 1862. (W. R. 11, p. 111.) His cavalry was scouting during his advance. He asked for reinforcements (W. R. 11, p. 133), which of course could not be spared. His cavalry advanced as far as Stevenson, and apparently met no determined resistance, all available Confederate forces having been concentrated at Corinth. This premature advance exposed General Mitchel to guerilla operations, which his small force of cavalry was inadequate to effectually cope with. This had the effect of calling forth from General Mitchel repeated requests for cavalry. (W. R. 11, pp. 167, 206, 212, 251.) What he had was worn out by trying duty. (W. R. 11, p. 212.) General Buell could only repeat General Mitchel's request in a telegram to the Secretary of War. (W. R. 11, p. 183.)

While General Buell was trying to restore the Memphis & Charleston Railroad from Corinth toward Chattanooga, his cavalry was fully occupied trying to guard the railroad and scouting to the south to ascertain what Confederate movements were taking place. The impression in Washington was that the Confederate army in Virginia was being heavily reinforced from Mississippi, and General Halleck was urged to ascertain the truth.

By the end of July, General Buell had resumed the line of the Louisville & Nashville Railroad. During the summer of 1862 Generals Forrest and Morgan had each accumulated a force sufficient to be formidable, and they began the series of raids and expeditions which were to prove to the Federal authorities the necessity for a large, well trained, and well mounted force of cavalry.

It is impossible within the limits of this article to give in detail the operations of the Federal cavalry in Tennessee during the summer of 1862. General Buell's cavalry was distributed over the whole area of middle Tennessee, rarely more than a battalion in a place. Of the various operations, successful and unsuccessful, against guerillas and against the commands of Generals Forrest and Morgan, the following are the principal:

On May 5, 1862, at Lebanon, Tennessee, a Federal cavalry force consisting of parts of three regiments, about 600 strong, surprised a Confederate force of 800 cavalry under General (then Colonel) Morgan, defeated it after a hard fought battle, and pursued it fifteen miles. About 150 prisoners with their horses and arms were captured. The Federal loss was six killed and twenty-five wounded. The gallantry of the troops is praised in the report of this action. (W. R. 10, pp. 884–5–6.)

On May 12th, an expedition consisting of parts of three companies was sent out from Fort Heiman to intercept Confederate medicinal supplies. Instead, they struck 1,300 Confederate cavalry and were badly cut up, most of them being captured. (W. R. 10, p. 881.)

Early in June an expedition was sent forward to Chattanooga. Two cavalry regiments formed part of the force. Arriving before Chattanooga, the cavalry was used to protect the rear of the force. After two or three days spent in observing and bombarding the town, the expedition returned. (W. R. 10, p. 921.)

On June 13th five companies of cavalry were sent out from Bowling Green against marauders, but accomplished little. (W. R. 10, p. 914.) Meanwhile General Buell, on May 12th, represented the need of at least five more regiments of cavalry in his department, but was informed that there was none to send him. (W. R. 22, p. 34.) Immediately afterward the operations of Generals Forrest and Morgan began to impress upon General Buell the importance of cavalry. On July 11th all cavalry south of Murfreesboro was ordered to be on the lookout for a force of 200 Confederate cavalry. (W. R. 23, p. 123.) General Buell's chief of staff complained that the lack of cavalry prevented any real check being administered to General Morgan in Kentucky. (W. R. 23, p. 131.) General Buell immediately telegraphed to General Halleck that he wanted more cavalry (W. R. 23, p. 159), and repeated later that cavalry raids could only be effectually met by cavalry, and that he needed five to eight more regiments. (W. R. 23, p. 197.) He followed this the next day by another telegram urging the importance of a large force of cavalry, and said that there was no safety against raiders without cavalry to pursue, and that he was concentrating all the cavalry he could to operate in force. (W. R. 23, p. 202.) A brigade of three regiments was ordered to concentrate at Columbia, Tenn., July 23d (W. R. 23, p. 204), and General R. W. Johnson placed in command. (W. R. 23, p. 208.) He was immediately ordered to Murfreesboro. (W. R. 23, p. 212.) Meanwhile, General Nelson was trying to concentrate a force of cavalry in Kentucky to check General Morgan, and although he got together a brigade under General Jackson (W. R. 23, p. 214), it was not successful in doing so. Finally, on August 16th, General Buell began telegraphing all around in a general endeavor to concentrate his cavalry at Murfreesboro (W. R. 23, pp. 346–7–8), and General Nelson sought cavalry from General Buell to operate against General Morgan. (W. R. 23, p. 341.)

On August 18th General Buell ordered all cavalry not otherwise engaged or assigned to join General Johnson's command. (W. R. 23, p. 361.) The same day he telegraphed General Halleck that he needed a sufficient force of cavalry to cope with the Confederate cavalry and keep open 400 miles of railroad; that lacking cavalry, he had built stockades to diminish the railroad guards; that his communications could only be protected by cavalry; and finally, that he had represented the need of cavalry three months before. (W. R. 23, p. 361.) It would

seem that the fault was partially with General Buell, since his return of July 10th (W. R. 28, p. 120) shows that he had 6,000 cavalry.

July and August, 1862, were busy months for the Federal cavalry in Tennessee and Kentucky. In his first Kentucky raid, July 4–28, 1862, General Morgan attacked and defeated four companies of cavalry at Salina, Ky., July 8th. (W. R. 22, p. 754.) July 9th he cut to pieces four companies of cavalry at Tompkinsville, Ky. (W. R. 22, p. 731.) July 24th he captured part of the Seventh Kentucky Cavalry at Cynthiana, Ky. (W. R. 22, p. 757.)

On July 13th General Forrest captured Murfreesboro with its garrison of fifteen companies of infantry, seven companies of cavalry, and two pieces of artillery. (W. R. 22, pp. 792–3.) On July 26th a reconnoitering party of three companies of Federal cavalry was defeated at Tuscumbia, Ala. (W. R. 22, pp. 830–1.) In the latter part of July a concentration of cavalry against the Confederates near Nashville was ordered, but it got together too late to interfere. (W. R. 22, p. 815.)

In the early part of August scouting operations were indulged in by a battalion of cavalry near Woodville, Ala. (W. R. 22, p. 837), and by two companies from Woodville to Guntersville. (W. R. 22, p. 870.)

The effectiveness of General Buell's concentrated cavalry was now to be tested. General Johnson, with 640 cavalry, supported by a brigade of infantry and some artillery, was sent from Murfreesboro after General Morgan, operating north of Nashville. For some reason not clear the infantry and artillery were left behind, and the cavalry alone struck General Morgan's force near Gallatin. A surprise was attempted, and the Federal cavalry charged. Half of it ran away and could not be rallied. The remainder retreated, and being pressed by General Morgan, formed to fight on foot. Upon the approach of General Morgan's force, all but seventy-five ran away, and these surrendered. (W. R. 22, p. 871.) Many stragglers were captured by the Confederates.

The difficulties of the Federal cavalry in Tennessee were well expressed by the commander at Nashville in a letter to General Buell. (W. R. 23, p. 406): * * * "Whatever force we send out for any real purpose, we are repelled by a greater force; but when large forces are sent up for no particular purpose, no enemy is seen." Such is the disadvantage of cavalry operating in a hostile country.

About August 15th General Kirby Smith appeared at Cumberland Gap, a forerunner of General Bragg's invasion of Kentucky. During his advance on August 17th, five companies of Federal cavalry were attacked and defeated at London, Ky. (W. R. 22, p. 861.) On August 23d in an action at Big Hill, Ky., the Seventh Kentucky Cavalry fled, and their action was such that members of the regiment were ordered arrested wherever found. (W. R. 22, p. 885.) A battalion of Tennessee cavalry with them fought well.

General Morgan's raid in Kentucky had caused the formation of several regiments of cavalry, and these were of some use in the campaign inaugurated by General Bragg. General Kirby Smith's advance struck Richmond, Ky., August 30th. General Nelson's raw command was routed. (W. R. 22, p. 909.) The two cavalry regiments with him were not engaged.

In the latter part of August, immediately preceding General Bragg's northward movement, General Buell complained that the lack of cavalry in sufficient force for reconnoissance made him depend on spies and other sources for information. (W. R. 23, p. 416.) He ordered the concentration of some cavalry August 27th for the protection of the railroad to Nashville. (W. R. 23, p. 431.)

Two or three reconnoissances were made when General Bragg concentrated at Sparta, to ascertain his dispositions. (W. R. 23, pp. 454, 489, 498.)

On September 5th an important step was taken in the organization of a cavalry division of two brigades of four and three regiments, under Colonel Kennett. (W. R. 23, p. 484.) General Buell was at Bowling Green September 16th, and from that point ordered the cavalry division to be ready to move.

During General Buell's northward movement to Louisville, little mention is made of the operations of the cavalry. On October 1st Colonel Kennett's cavalry division had about 3,000 men (W. R. 23. pp. 562–3) with 1,300 unattached cavalry. General Buell's total force was 69,000.

September 27th to October 4th one brigade of cavalry was used in escorting a train to Louisville. The report of the commander shows this brigade to have been pretty well broken down. (W. R. 23, pp. 567–8.) The other brigade of the cavalry division and the remainder of the cavalry of the army were probably used in reconnoissance until General Buell reached Louisville.

The cavalry division was at Elizabethtown October 2d (W. R. 23, p. 564), and near Perryville October 7th. (W. R. 23, p. 580.) On September 29th a detachment from Colonel McCook's brigade surprised and captured a Confederate cavalry regiment. (W. R. 22, p. 1016.) This was followed by the capture of a small party of Confederate cavalry at Elizabethtown October 3d. (W. R. 22, p. 1018.)

The organization of the army of General Buell October 8, 1862 (W. R. 23, pp. 591–6), shows six of the nine divisions to have had cavalry assigned to them, while the cavalry division had been increased to three brigades of four, three and two regiments respectively. At Nashville were twelve companies of cavalry.

The trains of the army having reached Louisville safely, the cavalry resumed its normal function of screening General Buell's advance against General Bragg. There was a sharp skirmish at Bardstown October 4th (W. R. 22, p. 1018), but the details of this engagement have not been found.

In the battle of Perryville, October 8th, we find for the first time with General Buell a fairly efficient cavalry force. On October 7th a force of 1,350 cavalry skirmished all day with the Confederates. (W. R. 23, p. 1037.) On October 8th this force was joined by an additional brigade under Colonel McCook. By dismounted action they drove in the Confederate advanced cavalry. They then took a position in the line attacked by the Confederates, and held it during the attack. (W. R. 22. p. 1037.) General Buell's report of the battle of Perryville states that the cavalry rendered excellent service. (W. R. 22, p. 1030.)

On October 7th an action was fought between a Federal force of 400 cavalry and 400 infantry, with two pieces of artillery, and General Forrest's command of about 3,000 men at La Vergne, Tenn., resulting in the defeat of General Forrest. (W. R. 22, p. 1020.)

Immediately after the battle of Perryville the cavalry was sent to keep touch with the retreating Confederate army. (W. R. 23, pp. 597, 598, 600, 605, 628.) Owing to the lack of forage, General Buell was later compelled to keep most of his cavalry in the rear, and to depend on his infantry to keep touch. (W. R. 23, p. 621.) Meanwhile, General Morgan (Confederate) was keeping things moving to cover General Bragg's retreat. On October 18th he captured 500 of the Fourth Ohio Cavalry at Lexington (W. R. 23, p. 680), and a brigade of cavalry was sent after him without success. (W. R. 23, pp. 645–9.)

General Buell could not follow General Bragg on account of the difficult country and the exhaustion of its resources by the retreating Confederates. He gave up the pursuit and determined to move to Nashville. He reported October 26th sending one brigade of cavalry to Lebanon and one to Bowling Green. (W. R. 23, p. 644.)

General Rosecrans relieved General Buell on October 30, 1862. He immediately sought to improve the organization and efficiency of his cavalry. The day that he assumed command, he telegraphed General Halleck that he had eight good regiments of cavalry, and asked for General Stanley for duty as chief of cavalry. (W. R. 23, p. 665.) On November 2d he again telegraphed that he must have cavalry and cavalry arms and a capable division commander, again asking for General Stanley. (W. R. 30, p. 8.) The requests for additional cavalry and cavalry arms were urged repeatedly (W. R. 30, pp. 9, 27, 31, 36, 58, 59, 127, 326), and failing an increase of cavalry strength, he made urgent requests for horses and equipments to mount infantry. (W. R. 30, pp. 58, 331.) In support of these requests, he stated that his cavalry was half armed and two-thirds demoralized (W. R. 30, p. 31), and that the Confederates had 10,000 to 12,000 cavalry, and had things all their own way. (W. R. 30, p. 331.) These deficiencies were remedied as far as possible. (W. R. 30, pp. 64, 327.)

As a matter of fact, the Confederate cavalry under Generals Forrest, Morgan and Wharton, had the cavalry of General Rosecrans' army pretty thoroughly terrorized. In a communication to General Halleck December 7th, General Rosecrans stated that his cavalry was but one-fourth the number of the Confederates, and not fully armed, and that he wanted more cavalry before he tried them against the Confederate cavalry. (W. R. 29, p. 41.)

In his report of the battle of Stone's River, General Rosecrans stated that the enormous superiority of the enemy in cavalry kept the little cavalry he had almost within the infantry lines. (W. R. 29, p. 189.) The Federal cavalry was mostly concentrated in the cavalry division commanded by General Stanley, who reported for duty on November 24th, and was immediately appointed chief of cavalry. (W. R. 30, p. 94.)

The cavalry numbered about 3,000 December 8th (W. R. 30, p. 135), and the return of December 31st shows a total of 6,200 cavalry present for duty with General Rosecrans, of which 4,400 were in the cavalry division under General Stanley. (W. R. 30, pp. 283–5.)

Three regiments were sent to join the cavalry division on January 13th. (W. R. 30, p. 328.) The actual results of the operations of the cavalry were small.

In the advance on Nashville, the cavalry division was directed to move November 4th, one regiment on the Nashville Pike, two regiments to Tyree Springs, and the other two regiments to Springfield, scouting forward to Gallatin and Hendersonville, covering the advance of the army. (W. R. 30, p. 7.) On November 7th, General Rosecrans ordered the cavalry to occupy Hartsville and advance across the river, scouting to Lebanon. (W. R. 30, pp. 19–21.) This movement was to cover the advance of General Crittenden's division. On November 12th Colonel Kennett, commanding the cavalry division, was at Hartsville with 2,000 cavalry. (W. R. 30, p. 40.) On November 13th General Negley reported that the Fourth Ohio Cavalry was attacked by General Forrest and driven into Nashville in great confusion. (W. R. 30, p. 42.) The same day General Rosecrans ordered a cavalry reconnoissance in force beyond Lebanon. (W. R. 30, p. 42.)

On November 18th the cavalry division was ordered to Nashville (W. R. 30, p. 66), and was then ordered to act as rear guard and to guard trains on the advance to Stone's River, returning when this duty was completed to Nashville. (W. R. 30, p. 71.) On November 28th a train and its escort of forty cavalry were captured near Hartsville, but most of it was recaptured the same day by a battalion of cavalry. (W. R. 29, pp. 24–5.) The same day a brigade of cavalry was sent out on the Hillsborough road on a reconnoissance, but saw nothing. (W. R. 30, p. 78.)

December 4th a force of 300 cavalry had a small skirmish south of Nashville. (W. R. 29, p. 29.) December 7th the garrison of Hartsville, 1,800 strong, was captured. This included the Second Indiana Cavalry, 350 in number. (W. R. 29, p. 45.) The attack was a surprise, but the cavalry at least offered some resistance. They formed dismounted, but none of the rest of the garrison came to their assistance, and all surrendered. (W. R. 29, pp. 51–2.)

December 11th three regiments of cavalry were sent on a scout to Franklin. They attacked dismounted and captured the town. (W. R. 29, p. 767.)

An expedition consisting of 1,000 cavalry was sent by General Wright into East Tennessee December 20th to January 5th, 1863. This force had a skirmish at Watauga Bridge December 30th, and at Jonesville January 2d. They destroyed two important bridges on the East Tennessee Railroad and about ten miles of track. The total journey was about 470 miles. (W. R. 29, p. 86.)

General Morgan's second Kentucky raid was made from December 22, 1862, to January 2, 1863. He avoided action as a general rule, a small and unimportant skirmish with four companies of cavalry at Green's Chapel, Ky., being the only fight. (W. R. 29, p. 151.)

From General Wright's forces in Kentucky, an expedition of two battalions of cavalry was sent from London, Ky., into east Tennessee. They defeated a small Confederate force at Perkins' Mill, Tenn., December 28th. (W. R. 29, pp. 159–63.) A force of 150 cavalry attacked a

guerilla camp in Powell County, Ky., December 26th, capturing a few prisoners. (W. R. 29, p. 166.)

Preparatory to the advance on Murfreesboro, resulting in the battle of Stone's River, December 31, 1862, and January 2, 1863, General Stanley reported that he was able to march with about 1,700 men (W. R. 30, p. 227), and the orders for the cavalry were to advance in three columns of one brigade each, one under Colonel Zahm on the Franklin Pike, one under Colonel Minty on the Murfreesboro road, and the reserve under General Stanley on the Nolensville pike. The Fourth U. S. Cavalry, 400 strong, was ordered to report to General Rosecrans. (W. R. 30, p. 241.) The cavalry advanced in accordance with these orders on December 26th.

The brigade under General Stanley encountered the Confederates in force on the Nolensville pike, and fought from 10:00 A. M. December 27th until evening, driving them two miles beyond La Vergne. The brigade executed a reconnoissance to College Grove December 28th, and was joined by Colonel Zahm's brigade on December 29th. General Stanley's force advanced on the Bole Jack road and Colonel Zahm's brigade by the Franklin road, communicating at Stewart's Creek. The Confederates were encountered by General Stanley at Wilkinson's Cross Roads and driven back rapidly across Overall's Creek. One troop in pursuit fell into an ambush and was defeated. On December 30th the entire cavalry division, numbering 3,000 to 3,200 men (W. R. 29, pp. 191, 196), was employed in guarding the flank of the army in position.

The brigade under Colonel Zahm, numbering 950, proceeded via Franklin, where on December 26th it had a skirmish with 900 Confederate cavalry and drove them out. On December 27th and 28th this brigade made a reconnoissance to the front and right, via Triune, joining General Stanley as above. On the 29th this brigade was attacked by General Wharton's brigade of Confederate cavalry and a heavy fight followed, neither side gaining any advantage. On the 30th a severe skirmish occurred on the Franklin road.

The brigade under Colonel Minty covered the advance on the Murfreesboro road, one regiment on the road and one on each flank. There was light skirmishing all day on December 29th. On December 30th, this brigade formed a chain of vedettes in rear of the army to drive up stragglers. One regiment and one battalion were sent back toward Nashville to look after General Wheeler.

In the battle on December 31st, the cavalry performed important services. Colonel Zahm's brigade was on the right flank, and was heavily engaged. It was thrown into great confusion and practically routed. One regiment ran away, but on the whole this brigade did as well as could be expected under the circumstances. One regiment executed a mounted charge, which was repulsed. The whole brigade gave ground continually, but was able from time to time to repulse charges by the Confederate cavalry. On January 1st, one regiment and one company of this brigade were sent to escort a train to Nashville. On January 3d, while escorting a train from Nashville to Murfreesboro, this same cavalry escort was attacked by a portion of General Wheeler's command, but repulsed the attack. On January 4th the whole brigade proceeded to the front, and on January 5th was sent out on the Shelbyville road, but did nothing, and returned to camp. On December 31st Colonel Minty's brigade, 950 strong, was sent to the right flank of the army, where it formed dismounted, but was out-flanked and had to retire. It was followed by the Confederate cavalry, which again threatened the flank, but was driven off by a charge. The brigade also charged successfully on the force in front at the same time.

On December 31st Colonel Kennett's brigade was also ordered to the right, thus throwing the entire cavalry force on this flank. This brigade formed dismounted, and at 4:30 P. M. was attacked and outflanked, whereupon it mounted and retired, re-formed and made a successful charge.

Thus it is seen that when the battle opened all of the cavalry was sent to the right flank and used to assist in staying the rout on that flank. On January 1st, 2d and 3d the cavalry was used to guard the flanks. On January 4th it was concentrated and moved to the fords of Stone's River, and on January 5th entered Murfreesboro. On January 6th the cavalry moved out in two columns on the Shelbyville pike and toward Manchester. The latter column encountered the Confederates three and one half miles from Murfreesboro and fought till sundown, driving them back toward Manchester. The Federal cavalry then returned to Lytle's Creek, one and one-half miles from Murfreesboro.

One regiment, the Third Ohio Cavalry, did valuable service on December 31st, standing off an attack of the Confederate cavalry of General Wharton long enough to enable a large part of the ammunition train, then in danger, to be drawn off. The Confederate reports mention this regiment as having accomplished this result by a saber charge, but incidentally state that the Federal cavalry was driven from the field in the wildest confusion, which it must be acknowledged was not far from the truth. (Condensed from various reports, W. R. 29, pp. 617-649, 967.)

The Fourth U. S. Cavalry distinguished itself by a successful charge, in which 300 prisoners were recaptured. (W. R. 29, p. 188.) This charge was executed in line of companies in columns of fours. (W. R. 29, pp. 648-9.)

General Rosecrans gives the strength of the cavalry at Stone's River as 3,200. (W. R. 29, p. 196). The total casualties show 160 killed and wounded, and 236 missing. The work of the cavalry was praised by General Rosecrans in his report. (W. R. 29, pp. 194, 198.)

January 13th to 15th Captain Otis, with 700 cavalry, accompanied an expedition from Murfreesboro to Nolensville and Versailles. (W. R. 29, p. 984.) On January 19th one battalion of cavalry had a skirmish at Woodbury, in which a few prisoners were captured. (W. R. 29, pp. 985-6.)

After the battle of Stone's River, General Rosecrans immediately began an effort to increase his cavalry force by stripping Kentucky of cavalry, enumerating nine regiments serving there which he desired General Wright to send him (W. R. 30, p. 333) under the general instructions of General Wright to send to General Rosecrans such reinforcements as he could spare without endangering Kentucky. General Wright apparently sent all of the above regiments except one.

In January, 1863, the Fifteenth Pennsylvania Cavalry (Anderson Cavalry) mutinied. Three hundred of the regiment were present at the battle of Stone's River. The remaining 700 were under guard at Nashville. (W. R. 35, p. 151). The regiment was finally reorganized with new officers in May, 1863. (W. R. 30, pp. 345-381.)

As long as General Rosecrans remained in command, he continued his appeals for cavalry, and for the necessary horses, arms and equipments to make his cavalry effective. (W. R. 35, pp. 14, 22-3, 33-4, 154, 199, 245, 270-1, 559-60.) His appeal for horses drew forth from the Quartermaster General a long letter (W. R. 35, pp. 300-303) in which attention was drawn to the fact that the horses already furnished had been broken down by hard and unnecessary work, pointing out a case where a very long and hard march had been made with no other object than to get back to camp, and citing other instances of like abuses. He advised General Rosecrans to see that his cavalry cared for their horses properly, advice which appears not to have been out of place.

General Halleck, the Secretary of War, and the Quartermaster General all appeared willing to do their best to help General Rosecrans fit out his cavalry and mount such of his infantry as he wished, though General Halleck finally got tired of the continual stream of telegrams about the need of cavalry, informing General Rosecrans that he had his share or more of cavalry and cavalry arms (W. R. 35, p. 31), and finally requesting a cessation of the telegrams, saying that General Rosecrans' wants were fully known. (W. R. 35, pp. 37-8.)

However, General Rosecrans' persistence was to be rewarded, and the returns show a steady increase in the number of cavalry present for duty to 4,500 January 31st (W. R. 35, pp. 28-9), 5,000 February 28th (W. R. 35, p. 93), 6,300 March 31st (W. R. 35, pp. 196-7), and 5,000 April 30th (W. R. 35, p. 298.)

A cavalry corps was organized in May, 1863, and the return of May 31st shows its strength as 5,000 (W. R. 35, p, 378), while by July 31, 1863, it had reached the strength of 614 officers and 10,269 men present for duty. (W. R. 35, pp. 572-3.) At that time the cavalry was concentrated at Winchester, Tennessee.

From the battle of Stone's River until June 24, 1863, General Rosecrans' army lay at Murfreesboro preparing for an advance. This epoch is an important one for the cavalry in the West, being marked by a steady increase in efficiency and in numbers. The period was filled with expeditions and reconnoissances. Until the cavalry became sufficiently numerous to take care of itself, these expeditions were generally supported by infantry.

January 31st to February 13th an expedition of one division of infantry and two brigades (1,300) cavalry was sent from Murfreesboro to Franklin. In a skirmish at Unionville, January 31st, one regiment executed a successful saber charge. The expedition then moved via Triune to Franklin and returned to Murfreesboro. (W. R. 34, pp. 24-7.) February 3d to 5th an expedition of one division of infantry and one brigade of cavalry was sent from Murfreesboro to Auburn, Liberty and Alexandria. The cavalry acted as advance guard. (W. R. 34, pp. 43-4.) February 18th to March 5th a force of one regiment of infantry, one

regiment of mounted infantry, and one regiment and one battalion of cavalry was engaged in a futile chase after a Confederate raiding force near Paris, Kentucky. (W. R. 34, pp. 51-8.)

In a skirmish near Bradyville, March 1st, in which three regiments of Federal cavalry acting as a train guard were attacked, two regiments executed a mounted charge with sabers and pistols, and drove the Confederates off in confusion. (W. R. 34, p. 65.) Spring Hill was captured by the Confederate cavalry March 5th, with a garrison of 1,000 infantry. The cavalry, 650 in number, and the artillery made their escape. (W. R. 34, p. 75.)

An expedition of 850 cavalry was sent from Murfreesboro to Columbia, Tennessee, March 4th to 14th. In a skirmish at Rover, March 4th, one regiment executed a successful saber charge. There was also a skirmish at Thompson's Station March 9th. (W. R. 34, p. 129.) An expedition of 750 cavalry was sent from Franklin to Columbia March 8th to 12th, skirmishing with the Confederates at Thompson's Station March 9th, and at Rutherford's Creek March 10th and 11th. (W. R. 34, p. 142.)

A Confederate force of 6,000 mounted men under General Pegram, made an expedition into Kentucky March 22d to April 1st. The principal action was at Somerset, Kentucky, March 30th, in which the Federal force was 1,250 cavalry and mounted infantry. This entire force fought dismounted and attacked and defeated the Confederates. (W. R. 34, pp. 169-70.)

Brentwood, Tennessee, was captured March 25th by the cavalry of Generals Forrest, Morgan and Wharton. A force of 600 cavalry was sent to the relief, and succeeded in recapturing some of the wagons and arms. The whole Confederate force then came up, and the Federal cavalry retreated, fighting dismounted. They lost the wagons and had to destroy the arms to keep them from falling into the hands of the Confederates. (W. R. 34, p. 179.) A small Federal cavalry force (sixty-five) was defeated in a skirmish on the Woodbury pike March 27th. (W. R. 34, p. 197.)

General Stanley went on a reconnoissance April 2d to 6th with two brigades of cavalry (1,500) from Murfreesboro to Auburn, Liberty, Snow Hill, Cherry Valley, Statesville, Cainsville and Lebanon. (W. R. 34, p. 207.)

General Van Dorn attacked at Franklin April 10th with 10,000 men, a force of 5,200 infantry and 2,700 cavalry. One brigade of Federal cavalry charged and captured a battery and some prisoners, all of which were recaptured. (W. R. 34, p. 222.)

An expedition of 4,000 infantry, 1,500 cavalry and 1,100 mounted infantry was sent from Murfreesboro to McMinnville, April 20th to 30th, to clear out the Confederates and destroy the resources of the country. (W. R. 34, pp. 266-9; W. R. 35, p. 242.)

About this time General Rosecrans ordered General Stanley to Louisville with all of the dismounted cavalry to remount them. (W. R. 35, p. 246.) He also ordered the detail of infantry soldiers as orderlies, horses to be provided by the quartermaster's department. He prescribed that the cavalry guards and vedettes should be under the

control of the senior cavalry officer, and that each cavalry brigade should detail a brigade officer of the day. (W. R. 35, p. 336.) These were steps toward increasing the available numbers and the efficiency of the cavalry. General Rosecrans had also by this time succeeded in mounting a brigade of infantry under Colonel Wilder.

A raid by a force of mounted men under Colonel Streight into northern Alabama and Georgia in connection with Colonel Grierson's raid and general demonstrations along the Memphis & Charleston Railroad had been planned, and was started from Tuscumbia, Ala., April 26th. The expedition consisted of 1,700 men. After numerous skirmishes the force finally surrendered to inferior numbers near Cedar Bluff, Ala., May 3d. (W. R. 34, pp. 280–293.)

An expedition including one brigade of cavalry was sent toward Monticello, Ky., April 26th to May 12th. The whole force was defeated in a hard fought battle at Horseshoe Bottoms, Ky., May 10th. (W. R. 34, pp. 295, 299–302.)

While on an expedition from Murfreesboro to Middleton, May 21st and 22d General Stanley's cavalry division captured the camps of the Confederates at Middleton, 800 stands of arms, 300 horses, and all of the Confederate camp equipage. General Stanley in reporting this expedition makes the claim that his cavalry was fast becoming a terror to the Confederates. (W. R. 34, pp. 334–5.)

One brigade of cavalry had a small skirmish near Murfreesboro June 3d, and a brigade had a severe action near Franklin June 4th, fighting dismounted and mounted, defeating the Confederates. (W. R. 34, pp. 361–2.)

During the early part of June, the reconnoissances and expeditions were in the main without incident, the most important being a raid from Kentucky into East Tennessee June 14th to 24th, by 1,500 mounted men. They destroyed some bridges on the Tennessee Central Railroad, and some supplies and arms belonging to the Confederate government. (W. R. 34, p. 384.)

What is known as the "Middle Tennessee" or "Tullahoma" campaign, commenced on June 24, 1863. Under orders from General Rosecrans (W. R. 35, p. 446) the cavalry corps took the advance, General Turchin's division toward McMinnville, and General Mitchell's division via Rover. The latter encountered strong opposition near Rover, and was brought to a standstill June 23d. One brigade was detached from General Turchin's division to reinforce General Mitchell, and the other brigade of General Turchin was broken up in detachments. The Confederates withdrew from Rover, and at Middleton, June 24th, were defeated by General Mitchell. June 26th the entire cavalry corps was moved to Christiana, two regiments being sent forward to reconnoiter Guy's Gap. The day was rainy, and the rest of it was spent in getting up forage. June 27th the cavalry was ordered to take Guy's Gap, which was done. The Confederates were pursued to near Shelbyville, where a stand was attempted, but they were driven off, and Shelbyville was captured with 600 prisoners and some guns. June 28th the cavalry went back to Guy's Gap for supplies, thence June 29th via Shelbyville to Fairfield, and June 30th to Manchester.

July 1st the entire cavalry force was ordered via Hillsboro to Pelham. General Mitchell's division and one brigade of General Turchin's left Manchester July 2d in pursuit of the retreating Confederates. Twelve companies under General Turchin encountered the enemy at Morris's Ford and were repulsed. The rest of the cavalry corps came up and the Confederates abandoned the defense of the ford, and the cavalry crossed. July 3d the corps marched to Decherd, sending one regiment forward to Brakefield Point, and one to Cowan.

July 11th the entire cavalry corps having rested and refitted, was ordered forward to Huntsville, Ala. (From various reports, W. R. 34, pp. 538–556.)

General Rosecrans alleged as one reason for not advancing against General Bragg earlier, that his cavalry could not be ready before about June 15th. (W. R. 34, p. 403.)

The cavalry corps at this time was commanded by General Stanley, and comprised two divisions: First Division, General Mitchell; First Brigade, Colonel Campbell; Second Brigade, Colonel E. M. McCook. Second Division, General Turchin; First Brigade, Colonel Minty; Second Brigade, Colonel Long. The corps numbered 10,500 men. (W. R. 34, p. 410.) The only misfortunes of the cavalry in this campaign were the capture of 250 men by General Forrest at Lexington June 29th (W. R. 34, pp. 628–9), and the capture of two companies of cavalry on outpost at Union City, Tenn., July 10th. (W. R. 34, pp. 822–3.)

The prospects of the Federal cavalry in Tennessee, already bright, were made brighter by the disastrous termination for the Confederate General Morgan of his Ohio raid, July 2 to 26, 1863. His whole force numbered about 3,000 men, and all of it was captured. No heavy action was fought with him, his capture being the result of a gradual disintegration of his force. Seven regiments of cavalry were in pursuit. (W. R. 34, p. 637.) The capture of General Morgan and his command at a time when the Federal cavalry was already getting the upper hand anyway, was a long step toward complete mastery.

A second Confederate raiding force of 1,500 to 2,000 men under Colonel Scott was sent into Kentucky July 25th to August 6th to relieve the pressure on General Morgan. A Federal force of 500 mounted men was routed at Richmond, Ky., July 28th. (W. R. 34, pp. 834–5.) The heavy cavalry force let loose by the capture of General Morgan compelled Colonel Scott's hasty return to Tennessee. (W. R. 34, pp. 839–42.)

A Federal expedition of about 1,000 mounted men was sent into southwestern Virginia July 3d to 11th. (W. R. 34, pp. 818–19.)

On July 11th General Stanley reported the cavalry stationed, one division at Fayetteville, one brigade at Pulaski, and one brigade at Salem. (W. R. 34, p. 825.)

The cavalry in Kentucky and Ohio which pursued and captured General Morgan was organized August 6th into a cavalry division of three brigades and one independent brigade, a total of 8,000 mounted troops. (W. R. 35, pp. 596, 603.) It fell under the command of General Burnside in his East Tennessee or Knoxville campaign.

General Stanley's cavalry remained in observation in advance of the army, watching the Tennessee River until the railroad was repaired

and General Rosecrans was again ready to advance. Reconnoitering parties were sent out from time to time.

While General Rosecrans was preparing for his forward movement, the cavalry in western Tennessee became active to create a diversion in his favor, and to prevent the reinforcement of the Confederate cavalry in his front. The simultaneous expeditions from Vicksburg and Memphis in August were for this purpose.

When General Rosecrans began the advance which precipitated the battle of Chickamauga, September 19 and 20, 1863, his cavalry corps numbered 585 officers and 10,114 men present for duty. (Return of August 31st, W. R. 52, p. 276.)

Colonel Minty's brigade of cavalry and Colonel Wilder's brigade of mounted infantry were along the Tennessee River from Chattanooga up to Washington. (W. R. 50, p. 51.) The remaining three brigades were below Chattanooga. On August 17th Colonel Minty's brigade marched from McMinnville via Pikeville for Sparta, where he had a skirmish and defeated the Confederate cavalry, threatening the communications. He then returned to the Tennessee River. This brigade and Colonel Wilder's brigade of mounted infantry operated on the left flank of General Rosecran's army during the Chickamauga campaign Colonel Wilder's brigade entered Chattanooga September 9th, and the next day moved toward Ringgold. On September 11th, two miles from Ringgold, his brigade attacked the Confederates and during the day drove them within four miles of Dalton. It was then ordered to return to Ringgold and thence to La Fayette, where a skirmish occurred and the brigade was nearly surrounded, but cut its way out and proceeded to Gordon's Mills. September 15th it executed a reconnoissance to Pea Vine Church, and moved September 16th to Cooper's Gap. September 17th it guarded the crossing of Chickamauga Creek at Alexander's Bridge. September 18th Colonel Wilder's brigade was attacked by a brigade of Confederate infantry, which was repulsed. A portion of the brigade was detached to assist Colonel Minty, when the remainder was attacked by three brigades of infantry, and although almost surrounded, managed to hold on until the following morning, when the brigade was ordered to the right flank of the line. There it was heavily engaged on September 19th. On the 20th the brigade occupied the right flank of the line, charged the Confederates and drove them back. It was then ordered to fall back to Lookout Mountain, which it did. (Note. This account of the part played by Colonel Wilder's brigade seems necessary in this connection, since it was apparently considered as cavalry, affecting the distribution of the cavalry. This brigade was transferred to the cavalry corps October 18th, and constituted the Third Brigade, Second Division.)

Colonel Minty's brigade marched from Chattanooga to Gordon's Mills September 13th, crossed Missionary Ridge into Lookout Valley the next day, and was ordered back via Gordon's Mills to Pea Vine Valley September 15th. September 16th and 17th light skirmishing only occurred. September 18th the Confederates advanced in force. Colonel Minty was reinforced by two regiments of Colonel Wilder's brigade and became heavily engaged dismounted at Gordon's Mills in the evening. September 19th the brigade moved to near Rossville, and

to Missionary Mills September 20th. From there it was ordered to take a position on the Ringgold and Rossville road to cover the retreat of the army, standing off a force of 1,500 Confederate cavalry and mounted infantry at Red House Bridge. On September 21st this brigade fell back to Rossville, and the next day to Chattanooga.

The main cavalry force of three brigades crossed the river at Caperton's Ferry September 3d, leaving guards at the crossings, and proceeded to Town Creek, moving to a point near Valley Head September 4th. The next four days were spent in scouting and in shoeing up the horses. September 9th the whole command moved into Broomtown Valley, where a skirmish occurred. September 10th to 12th were spent in reconnoissances toward La Fayette, Rome and Summerville. September 13th a reconnoissance by two brigades to La Fayette developed the presence there of the Confederates in force, and the whole command moved to Alpine. September 14th the whole command moved to the top of the mountain, and the next day one brigade to Dougherty's Gap, and a division to Valley Head, the whole command concentrating at Dougherty's Gap September 16th. Minor movements only were made on September 17th and 18th. September 19th the three brigades were moved to Crawfish Springs on the right of the Federal line and remained there in line of battle all day. September 20th they guarded the fords of Chickamauga Creek and were ordered to retire when the Federal army retreated. It is worthy of note that this order was verified before it was obeyed.

September 21st these brigades formed line of battle in Chattanooga Valley, skirmishing all day. September 22d they retired to Chattanooga, the rear brigade being heavily engaged. The whole of the cavalry then crossed the river to protect the trains in the Sequatchie Valley, and was disposed so as to observe the crossings from Washington to Bellefonte. These dispositions were completed by September 27th, one division being north of Chattanooga and the other south.

These operations were carried out without serious reverse except in one instance. On September 19th one brigade (Third Brigade, First Division) was thrown into confusion near Crawfish Springs and lost about 200 prisoners. The brigade was rallied, formed dismounted in rear, and repulsed an attack. (From various reports, W. R. 50, pp. 890–926, 445–9.)

General Stanley commanded until September 14th, when on account of sickness he transferred the command to General Mitchell.

General Rosecrans in a report to the Adjutant General, says that the obstinate stand of Colonels Minty and Wilder on September 18th gave time for the formation of the infantry, and that on September 18th, 19th and 20th the cavalry behaved with conspicuous gallantry, covering the shattered right and the trains. (W. R. 50, pp. 79–80.) The casualties of the cavalry in the Chickamauga campaign were thirty-two killed, one hundred and thirty-six wounded and three hundred missing. (W. R. 50, p. 179.)

General Rosecrans' dispositions after the battle of Chickamauga had scarcely been completed when on September 30th, a Confederate raiding force under General Wheeler, about 4,000 strong, crossed the Tennessee River at Cottonport Ferry, near Washington, and started

against the Federal communications via McMinnville, Murfreesboro, Shelbyville, Farmington and Pulaski, again crossing the Tennessee River at the mouth of the Elk River October 9th. As soon as General Wheeler had crossed the river, the cavalry was all ordered after him. General Crook's division and Colonel Wilder's brigade, which were along the river north of Chattanooga were ordered in direct pursuit. General Mitchell's division, which was in the vicinity of Bridgeport and Stevenson, was ordered to move via the Sequatchie Valley to join General Crook. After some hard marching and slight skirmishing, the whole command was concentrated six miles north of Shelbyville, October 6th. From there one division was ordered to Unionville, and the other division and the mounted infantry were ordered to Farmington in an attempt to head off the Confederate column. A severe action was fought at Farmington, which was signalized by a mounted charge of the mounted infantry, followed by a saber charge by the cavalry, four guns being captured. From the Confederate report (W. R. 51, p. 727) it appears that this engagement was fought by one brigade, which was thrown into action to delay the Federals. This brigade was badly cut up.

The pursuit of General Wheeler was given up when he crossed the Tennessee River, and the Federal cavalry was returning to Stevenson when, at Huntsville, it was turned aside after another raiding force under General Roddey, with whom a skirmish occurred at New Market October 13th, but he got away.

One division of cavalry (General Crook's) was now ordered to Flint River, and the other (General Mitchell's) to Winchester. The cavalry was badly used up, having marched 247 miles in six days, and several marches by brigades of more than fifty miles in a day were made. (Various reports, W. R. 51, pp. 664–5, 667–76, 690–3, 684–8.)

The prompt expulsion of Generals Wheeler and Roddey from Tennessee is in marked contrast with the previous performances of the Federal cavalry. Prior to this time the Confederate cavalry had roamed at will over Tennessee, doing immense damage to the railroads. In this attempt on the communications, not only was the damage small, but the raiding parties were expelled in the brief period of eight days, losing guns and prisoners, and this hasty exit was necessary to avoid capture. The principal damage done was the destruction of a wagon train in the Sequatchie Valley, and the Confederates barely had time to destroy this before they had to move on.

On October 25th General Mitchell reported that his horses were unfit for service, having been broken down in the pursuit of Generals Wheeler and Roddey. He gave the effective force of the first division as 1,000, and of the second as 1,400. He also complained bitterly of the quality of the horse equipments that had been furnished, saying that the leather was green, the trees of the saddles were green, the saddle irons too light, and that the inferior quality of the saddles was largely responsible for the condition of his horses. Many of the saddles which were new before the pursuit of General Wheeler were at this time condemned. He concluded with a request for 3,000 horses and 3,000 or 4,000 horse equipments. (W. R. 54, p. 835.)

At the same time General Crook reported his division as in unfit condition to move. (W. R. 54, p. 842.)

During the siege of Chattanooga, the headquarters of the cavalry corps (General Elliott) and the First Division (Colonel McCook) remained at Winchester until ordered November 26th to Knoxville. The Second Division (General Crook) and the mounted brigade of infantry (Colonel Wilder) were at Maysville, Ala. This disposition was necessary on account of the difficulty of transportation, the cavalry moving back to where it could be supplied from the railroad. (W. R. 56, pp. 95, 143, 162.)

On November 11th General W. S. Smith was appointed chief of cavalry of the Division of the Mississippi (W. R. 56, p. 115), giving him command of all the cavalry at Vicksburg, Memphis and Chattanooga. He immediately proceeded to Nashville and inspected the corral and complained of the quality of the horses being furnished, advocating a private mark for each purchasing quartermaster in order that the responsibility for the purchase of unfit horses might be fixed. He also complained of the arms, saying that there was scarcely a single regiment armed with weapons of uniform caliber. (W. R. 55, p. 438.)

On November 16th General Crook was ordered to send Colonel Long with 1,500 to 2,000 cavalry to Chattanooga for raiding duty. (W. R. 56, p. 167.) This is the only cavalry force which took part in the campaign for the relief of Chattanooga.

Colonel Long left Chattanooga November 23d with 1,500 men and proceeded via Cleveland and Harrison, doing extensive damage to the railroads. He returned to Chattanooga November 27th and left again November 29th, proceeding via Benton and Columbus (on the Hiwassee River) to Charleston December 1st, thence via Athens December 2d to Knoxville December 4th. He left Knoxville December 6th in pursuit of a Confederate wagon train, which he pursued as far as Murphy, N. C., where he arrived December 9th. He then gave up the pursuit, and received orders to return leisurely via Charleston to Chattanooga. (W. R. 55, pp. 560–5.)

The force under General Burnside operating against Knoxville consisted of 23,000 infantry and 6,500 cavalry. (W. R. 51, p. 557.) Owing to the fact that all Confederate forces were concentrated against General Rosecrans, General Burnside encountered little resistance in his advance. The cavalry was organized into four brigades, three constituting a cavalry division, and the fourth unattached.

Three brigades covered the advance and one guarded the trains. Arriving at Knoxville, one brigade was sent up the valley to Cumberland Gap, remaining there as a containing force, together with a Federal force already at the northern entrance to the Gap. The infantry came up from Knoxville and the Confederate garrison of 2,500 men surrendered. During the latter part of September the cavalry was occupied in driving small Confederate forces from the Tennessee Valley. General Burnside was ordered to coöperate with General Rosecrans, the cavalry being sent down the valley to open communication September 30th, but it was immediately recalled and sent up the valley. General Burnside apparently avoided as far as possible doing anything to assist General Rosecrans. (W. R. 51, pp. 546–51.)

October 20th 700 of Colonel Wolford's cavalry brigade were surprised by a Confederate force consisting of an infantry division and 3,000 or 4,000 cavalry, and badly defeated, losing six mountain howitzers and about 400 men captured. (W. R. 54, p. 5.) It is alleged that this attack was made under cover of a flag of truce. (W. R. 54, p. 273.)

General Longstreet was detached with his corps to operate against Knoxville November 4th. He had with him about 8,000 cavalry. (W. R. 54, p. 260.) It is difficult to ascertain General Burnside's effective force of cavalry at this time. The return of October 31st (W. R. 54, p. 811) shows 345 officers and 7,113 men present for duty. General Shackelford, in command of the cavalry, reported that he had not exceeding 1,800 well mounted men. (W. R. 56, p. 24.)

On November 3d, General Burnside organized his cavalry into a corps, with General Shackelford in command. It consisted of two divisions: First Division, Colonel Sanders; First Brigade, Colonel Wolford; Second Brigade, Colonel Byrd; Third Brigade, Colonel Pennebaker. Second Division, Colonel Carter; First Brigade, Colonel Garrard; Second Brigade, Colonel Foster. (W. R. 56, p. 35.) General Burnside reported to General Grant November 4th that his cavalry was much broken down, but that he could organize a force of 1,200 or 1,500 men. (W. R. 56, p. 45.)

This cavalry force, whatever it may have been, was posted in observation across the Valley of the Tennessee about Kingston at the time of General Longstreet's advance. One brigade (Colonel Garrard) was surprised and totally defeated at Rogersville by the Confederate cavalry November 6th, losing 775 prisoners. (W. R. 54, pp. 550–4.) There was constant skirmishing with General Longstreet's cavalry until the vicinity of Knoxville was reached. Here on November 17th the cavalry, fighting dismounted, delayed the Confederate advance until the infantry took position in the defensive works, and the siege began, lasting until December 4th. During the siege the cavalry appears to have been inactive as such, the men being used in the trenches. (W. R. 54, p. 271.)

On November 28th General Bragg's investment of Chattanooga having been broken up, General Sherman was sent to the relief of Knoxville, the siege of which was raised on his approach. He arrived at Knoxville December 6th. General Longstreet retreated northward toward Virginia. The cavalry was sent in pursuit, but the horses were broken down. (W. R. 54, p. 271.)

The first division of General Mitchell's cavalry corps was ordered to Knoxville from Alexandria, Tenn., November 27th, but was delayed by high water and did not reach Knoxville until December 12th. It started immediately in pursuit of General Longstreet. General Foster had meanwhile relieved General Burnside in command, and had placed his cavalry under the command of General Sturgis. (W. R. 54, p. 288.)

There was more or less skirmishing with General Longstreet's rear guard. At Hay's Ferry the Confederates administered a check to the pursuit, but in an action at Mossy Creek December 27th the Federal cavalry was victorious. (W. R. 54, pp. 436–8.)

In this action the most of the cavalry had been sent on a flanking movement, with one brigade and detachments of three regiments of cavalry to hold the front while the movement was made. This latter force was attacked by the entire Confederate cavalry and fought the whole day, most of the time dismounted. The cavalry was supported by a brigade of infantry which formed part of the pursuing force under General Sturgis. The tide of battle was turned by a flank attack made by a regiment of infantry. At the close of the action a dismounted charge was made by a regiment of cavalry and the Confederates retired. The remainder of the Federal cavalry had been recalled at the beginning of the action, but took no part in it. (W. R. 54, pp. 646, 648, 657.)

After the battle of Mossy Creek the main force of General Sturgis's cavalry remained in that vicinity on picket and observation duty until January 13th, at which time on account of the lack of forage it moved to Dandridge. (W. R. 57, pp. 44, 54.) At Kimbrough's Cross Roads near Dandridge on January 16th three brigades of Federal cavalry were attacked by the Confederate cavalry supported by three brigades of infantry, and were defeated and driven back. (W. R. 57, pp. 45, 80.) The Federal cavalry fought dismounted. After this fight the cavalry retired via Knoxville and Sevierville to Fair Garden. They arrived at this place January 22d, and on January 26th and 27th attacked and defeated the Confederate cavalry, clearing the field by a saber charge, but the Confederate infantry supported the cavalry and General Sturgis was driven back. (W. R. 57, pp. 42, 46.) Skirmishes occurred at Bainbridge's Ferry January 26th (W. R. 57, p. 122), and at Kelly's Ford January 28th. (W. R. 57, p. 54.)

One brigade of dismounted cavalry was then sent to Kentucky to remount, and the rest of the cavalry went to the Little Tennessee River for forage. (W. R. 57, p. 46.) One brigade, whose horses were unfit for service, was in Lee County, Virginia. (W. R. 57, p. 54.)

General McCook's division from Chattanooga returned to Cleveland, Tenn.

No further cavalry operations worthy of note occurred in east Tennessee except General Stoneman's raid, hereafter to be described. The cavalry force engaged in the operations in January numbered about 6,000, of which only about 3,500 were mounted. (W. R. 57, p. 47.) It comprised the cavalry of the Twenty-third Army Corps, and General McCook's division of the cavalry corps of the army at Chattanooga.

CHATTANOOGA TO THE END.

In giving an account of the cavalry operations after January 1, 1864, under this head some difficulty is encountered on account of the extent of the theater of operations. Aside from the cavalry force in east Tennessee, the operations of which have already been given, there remained the two principal cavalry forces at Chattanooga and at Memphis.

The first division was in east Tennessee. The second division (Colonel Miller) was practically broken up by reënlistment as "veteran volunteers" and the thirty days furlough consequent thereto. One

regiment of this division was sent to Memphis and one to Cleveland, Tenn. A portion of one brigade was at Calhoun, Tenn., during February, and took part in a demonstration against Dalton, near which place dismounted skirmishing occurred February 23d to 25th. In March the fragments of the division were concentrated at Huntsville, Ala., and finally, in the latter part of April, the strength was increased by returns from furlough, and two brigades moved to Chattanooga April 30th, complete in arms, horses and equipments, to be followed shortly by the remaining brigade.

The third division was organized in April under the command of General Kilpatrick. It moved through Hooker's Gap April 29th and engaged a superior force of Confederates and was driven back.

From the above it is seen that the cavalry at Chattanooga was engaged in no important operations during the period from January 1 to April 30, 1863. On the latter date we find it posted—one division at Cleveland, Tenn., and two divisions at Chattanooga. (Itinerary of the Cavalry Corps, W. R. 57, pp. 33–40.)

The cavalry corps was reorganized April 11th into four divisions of three brigades each, the brigades averaging three regiments. (W. R. 57, p. 19.)

For the forces in western Tennessee and Mississippi, an expedition against Meridian, Miss., was planned. An infantry force of two corps and a cavalry force of 2,000 moved from Vicksburg against Meridian February 3d to March 6th. In conjunction with this movement, a cavalry force of 6,500 was to proceed south from Memphis and join at Meridian.

The brigade of cavalry with the expedition from Vicksburg performed its duty well. At Jackson February 5th it attacked with one regiment mounted and one dismounted and surprised and routed the Confederate cavalry, pursuing it through the fortifications and contributing materially to the capture of Jackson without serious fighting. (W. R. 57, pp. 248–50.) General Sherman in his report particularly commends the cavalry for this work. (W. R. 57, p. 178.) In the retrograde movement this brigade of cavalry was sent on a circuit north in an endeavor to communicate with the cavalry from Memphis under General Smith. (W. R. 57, p. 176.)

The operations of the cavalry force from Memphis were a dismal failure. The force consisted of the cavalry at Memphis, reinforced by 2,500 from middle Tennessee and a brigade from Columbus. Delayed by the late arrival of the latter, the expedition did not start from Memphis until February 10th, too late to coöperate with the force from Vicksburg. Advancing to West Point, General Forrest was found so strongly posted that General Smith was afraid to attack. He then retired to Okolona, skirmishing all the way. At Okolona General Forrest attacked and stampeded the rear guard and inflicted a severe defeat on the whole force. The pursuit was finally checked by combined mounted and dismounted action after a running fight of ten miles. The Confederate force followed as far as New Albany.

General Smith attributes the failure of these operations to the clumsiness of a large command, to an unfavorable terrain, and to the

fact that the Confederate cavalry was better armed for dismounted fighting than was his own command. (W. R. 57, pp. 251–60.) General Smith's column returned to Memphis February 26th. From the Confederate reports, it appears that General Smith was driven from Mississippi by an inferior force, General Forrest having only 3,000 cavalry to oppose him. (W. R. 57, p. 346.)

During March the Federal cavalry force was much reduced by reenlistments and furloughs as "veteran volunteers" (W. R. 57, p. 261), and by the withdrawal of the force sent from middle Tennessee, so much so that when General Forrest made his raid into western Tennessee, March 16th to April 14th, in which he captured Union City and Fort Pillow, General Grierson was able to put in the field an effective force of only 2,200 cavalry to operate against him. (W. R. 59, p. 194.) General Forrest was so superior in numbers that this cavalry had to be supported by infantry in its operations, and, as was to be expected, nothing was accomplished. When General Forrest finally left Tennessee, he was followed as far as Ripley. The "pursuit" was ineffective on account of the delay due to the infantry, and was discontinued on account of the scarcity of forage. (W. R. 57, pp. 693–703.)

The period from January 1 to April 30, 1864, must be regarded as one of reorganization, recuperation, and refitting for the cavalry. Its numbers were greatly reduced by furloughs as veteran volunteers. The cavalry horses necessary for remounts had not been forthcoming, and the "present for duty" strength is little indication of the effective mounted strength.

The Cavalry Bureau had gone from bad to worse, and General James H. Wilson was ordered to Washington January 17th to reorganize it. (W. R. 58, pp. 115, 131.) April 4th, in a report to the Secretary of War (W. R. 59, pp. 255–258), he recommended that the chiefs of cavalry of the various armies have no command, but be regarded as staff officers; that steps be taken to collect the broken-down horses under proper care for recuperation; that surplus ordnance stores be turned in; and that preference be given in issue of supplies to those regiments which took proper care of their horses and arms. He expressed the opinion that the organization of the cavalry into corps was not expedient on such an extended front of operations, and cited the fact that the principal success had been scored by well-mounted commands numbering 1,500 to 2,000 men. Finally, he recommended that mounting infantry be discouraged, as they used horses needed for the cavalry and took no care of them.

April 7th General Smith reported that nearly 15,000 cavalry were at Nashville awaiting horses, arms and equipments.

The return of April 30th (W. R. 59, pp. 550–569) shows a great increase in the cavalry strength. With the army at Chattanooga was an aggregate of 20,000 cavalry, constituting a corps under General Elliott, as follows:

First Division—General McCook, 4,000, Cleveland, Tenn.
Second Division—General Garrard, 6,700, Columbia, Tenn.
Third Division—General Kilpatrick, 3,600, Ringgold, Ga.
Fourth Division—General Gillem, 5,200, Nashville, Tenn.
Detachment, 400, Rossville, Ga.

In addition, within the theater of operations were the following:

Cavalry Division—General Grierson, 4,600, Memphis, Tenn.
Cavalry Brigade—Colonel Munford, 800, Vicksburg, Miss.
Cavalry Corps—General Stoneman, 3,700, Kentucky.

a grand aggregate of nearly 30,000 cavalry.

From this point, it is more convenient to chronicle the operations of the cavalry in the campaign through Atlanta, Savannah, and the Carolinas, and then conclude with a chronological record of the remaining operations in the western theater.

Atlanta, Savannah, and the Carolinas.

When General Sherman started the campaign against Atlanta, his cavalry numbered 12,500 men. (W. R. 72, p. 101.) It embraced the First, Second and Third Divisions of the Cavalry Corps under General Elliott, attached to the Army of the Cumberland; a detachment of 700 cavalry with the Army of the Tennessee; and the division of General Stoneman which had been brought from Kentucky, and was attached to the Army of the Ohio. The strength of this cavalry force remained about 12,500 until June 30th, falling to 10,500 July 31st, and to 9,500 August 31st. (W. R. 72, p. 115.)

When General Sherman's advance began, McCook's division moved from Cleveland to Varnell's Station, covering the front and left flank of the army. Stoneman followed with his division. Kilpatrick's division moved out from Ringgold covering the front and right flank of the army. While developing the position at Dalton, McCook's division had a heavy dismounted skirmish at Varnell's Station, getting the worst of it. In the turning movement, McCook's and Stoneman's divisions and one infantry corps took position in front of Dalton, while the turning column, preceded by Kilpatrick's division covering its front and right flank and covered in rear by two brigades of Garrard's division, moved through Snake Creek Gap on Resaca. Dalton having been evacuated, McCook's and Stoneman's divisions moved through Ray's Gap to Resaca.

At Resaca, Garrard's division was sent to Rome, May 15th, to break the railroad, and returned May 18th to the right flank of the army. At Resaca, May 14th and 15th, and on the advance to Cassville, McCook's division covered the front and right flank, Garrard's division the left flank, and Kilpatrick's division the front.

In the operations around Cassville, McCook's and Kilpatrick's divisions covered the left flank, and when Cassville was evacuated, May 20th, McCook's division took the advance to Stilesborough and thence via Burnt Hickory to Burnt Church on the left flank. Garrard's division moved to Dallas on the front and right flank. Kilpatrick's division was left at Kingston to guard the railroad. Garrard's and Stoneman's divisions then moved to Allatoona and seized the pass, contributing thereby to the retirement of the Confederates from Kenesaw Mountain. These operations occupied from June 10th to July 3d. McCook's division had meanwhile passed to the right flank of the army. When the Confederates retired from Kenesaw Mountain, McCook's division moved via Powder Springs to the Chattahoochee, and Garrard's and Stoneman's divisions forward to Roswell, thus covering the right and left flanks of the army. After the evacuation of the position on the Chattahoochee River, McCook's division was posted from Turner's Ferry to Vining's Station. Garrard's division forced a crossing at Roswell and moved forward on a raid to Stone Mountain, breaking the railroad. It then returned to Roswell. Stoneman's division moved over to Sandtown, on the right flank of the army.

The cavalry remained thus covering the flanks of the army until after the battle of July 20th, when McCook's division moved forward to Proctor's Creek, and Garrard's division occupied the country from Decatur to Roswell, covering the left flank and rear of the army.

Meanwhile a division of cavalry under General Rousseau, 2,000 strong, left Decatur, Alabama, July 10th and moved via Talladega to Opelika, reaching Opelika, July 17th. Two days were spent in destroying the railroads around Opelika, and the command then moved without serious opposition to Marietta, reaching there July 22d. Rousseau moved forward to Sandtown, replacing Stoneman, who then moved to the left flank of the army, joining McCook.

Thus toward the end of July, when General Sherman had reached the vicinity of Atlanta, we find Stoneman's and McCook's divisions on the left flank and rear of the army, Garrard's division in front, Rousseau's division on the right flank, and Kilpatrick's division in rear guarding the railroad.

The cavalry was now directed against the communications of Atlanta. Two columns were started forward simultaneously on July 27th.

The first of these under McCook, with his own division and four additional regiments, started against the railroads west and south of Atlanta. After several severe skirmishes, a superior Confederate force was encountered near Newnan, Georgia, July 30th. The Federal force was surrounded, but cut its way out by a charge in column, losing 500 men and the artillery. Returning from this rough experience, McCook's division exchanged places with Kilpatrick's.

The other column, under Stoneman, started from Decatur against the railroads east of Atlanta. Leaving Garrard's division at Flat Rock, Stoneman marched rapidly to the vicinity of Macon with 2,100 men. He attacked Macon July 30th, but was unsuccessful. He then bent his principal efforts to effecting his escape. Everywhere he turned he struck the Confederates, finally encountering them in force near Hillsboro, was repulsed in his attack and surrounded. About 500 of his force escaped by cutting their way out, and the rest, including Stoneman, were captured. One thousand one hundred and seventy-one men were reported missing as a result of this disastrous raid. The columns of McCook and Stoneman were to meet south of Atlanta, but the difficulties encountered prevented.

As soon as Kilpatrick moved forward to Sandtown to take McCook's place, he executed a reconnoissance to Fairburn and did some damage to the railroad.

General Wheeler then executed a raid to Adairsville against the Federal communications. General Sherman seized the opportunity

presented by the reduction of the cavalry force in his front to send Kilpatrick with 4,000 men on a raid west and south of Atlanta. Kilpatrick left Sandtown August 18th, and proceeded via Jonesborough to Lovejoy's Station. He was prevented from doing material damage to the railroad. Near Lovejoy's he was surrounded and had considerable difficulty in extricating his command. He succeeded in breaking through, and returned via McDonough to Decatur August 22d.

August 25th Garrard's and Kilpatrick's divisions covered the withdrawal and movements of the Fourth and Twenty-third Army Corps to the west and south of Atlanta. After the battle of Jonesborough, August 31st to September 1st, Garrard's division covered the rear and right flank, and Kilpatrick's division the rear and left flank in the movement into Atlanta.

One brigade of McCook's division, which was guarding the railroad, was attacked by General Pillow at La Fayette, and the Confederates were defeated.

Thus from Chattanooga to Atlanta the cavalry screened the front and guarded the flanks and communications of the army. In the turning movements the cavalry was on several occasions used to hold the front while the turning movement was made. This work was attended by almost constant skirmishes and engagements, to which no reference can be made. (Various general reports, W. R. 72, pp. 23–50, 61–79, 140–175; Reports of cavalry commanders, W. R. 73, pp. 745–9, 750–68, 803–11, 855–61, 904–11, 911–15.)

Atlanta to Savannah.

After the capture of Atlanta most of McCook's division was sent to Nashville for remount, one brigade remaining at Calhoun, and a portion of another at Cartersville. The division of Stoneman had been broken up by his disastrous raid. Garrard's and Kilpatrick's divisions remained near Atlanta, posted respectively at Blake's Mills and Campbelltown.

In the movement north from Atlanta to protect the communications against General Hood, these two divisions were concentrated at Noye's Creek October 3d. They then moved covering the front and left flank of General Sherman's advance, and October 10th Garrard's division was at Stilesborough and Kilpatrick's at Van Wert. At the latter place Kilpatrick repulsed a Confederate attack.

October 10th to 13th Garrard's division moved via Rome to Summerville, and Kilpatrick's division to Rome. Kilpatrick's division was then ordered to Dallas, and Garrard's division reached Gaylesville October 20th. October 21st Garrard's division and one brigade of McCook's division defeated General Wheeler at Leesburg, Ala. October 23d this force moved forward to King's Hill and found the Confederates, but did not attack. (Various reports, W. R. 77, pp. 581–91, 721–9.)

Up to this point the cavalry operations had not been conducted to suit General Sherman. He bluntly informed General Elliott that the cavalry acted as if afraid (W. R. 79, p. 108), and that it was lacking in enterprise. (W. R. 79, p. 127.)

At Gaylesville, General Sherman, having driven General Hood from his attempt on the communications, turned over all of his cavalry except General Kilpatrick's division to General Thomas, to whom General James H. Wilson, now appointed to command all of the cavalry in the Military Division of the Mississippi, was ordered to report November 1st.

General Sherman then repaired to Atlanta to organize his force for the advance to Savannah. Four infantry corps and General Kilpatrick's division of cavalry constituted his force. General Kilpatrick's division numbered 5,500, and was put on an effective footing by taking horses from General Garrard's division. (W. R. 79, p. 494.)

In the movement on Savannah, General Kilpatrick was sent on a demonstration against Macon, covering the left flank. Leaving Atlanta November 15th, he fought and defeated General Wheeler at Lovejoy's. He reached Clinton November 19th, was attacked at Griswold's Station November 20th and 22d, the Confederates being repulsed. November 24th General Kilpatrick moved to Milledgeville, and swinging thence to the left flank of the army, moved forward to liberate the prisoners at Millen, but learned that they had been removed.

At Waynesborough, November 27th and 28th, severe skirmishes occurred. On the 28th General Kilpatrick himself and two regiments were cut off and nearly captured. The same day a heavy action was fought at Buck Head Creek, and General Wheeler was defeated. General Kilpatrick then moved back to Louisville so as to have the infantry in supporting distance. Moving thence to Waynesborough, General Wheeler's force, dismounted behind breastworks, was attacked December 3d. The first attack failed. Again attacking dismounted, the breastworks were carried.

The whole cavalry division was united ten miles south of Springfield December 10th, and covered the rear of the army in the march to, and in the deployment before Savannah. The cavalry was sent to communicate with the fleet December 15th, and then returned to King's Bridge, closing the cavalry operations until the northward movement began. (General Sherman's report, W. R. 92, pp. 7–14; General Kilpatrick's report, W. R. 92, pp. 361–8; itinerary of the cavalry division, W. R. 92, pp. 54–5.)

General Sherman states that the work of the cavalry was well done, keeping the Confederates from even approaching the trains, (W. R. 92, p. 13) and securing him from annoyance by the Confederate cavalry. (W. R. 92, p. 368.)

Campaign in the Carolinas.

In the northward movement, the cavalry was delayed by high water and did not cross the Savannah River until February 3, 1865. At that time, the cavalry division consisted of three mounted and one dismounted brigades, numbering, according to General Kilpatrick's report (W. R. 98, p. 857), a little more than 5,000 men. During this campaign, the cavalry was under orders not to engage needlessly, as no useless diminution of the strength of the cavalry could be afforded. (W. R. 98, p. 863.) From Savannah to Averasborough, the duty of the

cavalry was to protect the front and left (exposed) flank, shifting to the right flank for but a brief period on the march from Averasborough to Goldsborough. (W. R. 98, pp. 24–5.)

The greater part of the march was without incident. Skirmishes occurred at Barnwell and at Blackville, S. C., February 6th and 7th. General Kilpatrick sent a brigade on a reconnoissance to Aiken, and it was attacked by General Wheeler's entire force February 11th, and driven back to the barricades of the position at Johnson's Station, where the remaining brigades were. The combined force was able to repulse General Wheeler's attack.

The march then continued via Columbia and Lancaster to Wadesborough, which was reached on March 2d. A skirmish occurred at Rockingham March 7th. On March 9th, at Monroe, one brigade of cavalry was completely surprised and routed by an early morning attack by General Hampton. Headquarters and the artillery were captured, General Kilpatrick himself escaping on foot. While the Confederates were securing the guns and animals, the brigade rallied and drove them off, recapturing the artillery. The cavalry then stood off the attacks of the Confederates until supported by the infantry.

In the battle of Averasborough, one brigade of cavalry was in the part of the line first attacked by the Confederates. This brigade held its ground until supported by the remaining brigades of the division. The entire division was engaged both mounted and dismounted in connection with the infantry all day. This engagement concluded the operations of the cavalry in this campaign. In the battle of Bentonville, the cavalry was in reserve and was not engaged. The total casualties of the cavalry in this period were 107 killed, 285 wounded, 185 captured, and 77 missing. General Kilpatrick states that the cavalry was in better condition at the close of the campaign than at the beginning.

General Sherman commended the cavalry, saying that its work had been done with spirit and skill. (General Sherman's report, W. R. 98, pp. 17–26; itinerary of the cavalry division, W. R. 98, pp. 145–6; General Kilpatrick's report, W. R. 98, pp. 857–64.)

OPERATIONS IN TENNESSEE, ALABAMA, AND MISSISSIPPI, MAY 1, 1864 TO END.

The month of May was devoted to scouting and to preparations for further operations against General Forrest.

For this purpose, a force was collected consisting of 5,000 infantry, 3,300 cavalry, and sixteen guns, the whole under the command of General Sturgis. The cavalry was commanded by General Grierson.

The movement of this column began June 1st, and progressed favorably until June 10th, when a considerable Confederate force was encountered at Brice's Cross Roads. When the Federal cavalry struck this force the Confederates promptly attacked, the Federals having formed dismounted. For a time the attack was held off, and General Grierson asked to be relieved by the infantry. The infantry was hurried forward and thrown into the action exhausted, and the cavalry retired. As it was withdrawing, it became necessary for one brigade

to again dismount and assist in meeting an assault by the Confederates. The infantry was utterly routed, losing over 600 killed and wounded, and over 1,600 missing.

The cavalry was used to protect the retreat of the wreck of the infantry, which was accomplished with the loss of the artillery and trains. (W. R. 77, pp. 84–95.)

There is nothing to commend and much to criticize in the conduct of the cavalry in this expedition. From the reports, it seems that once the Confederates were encountered, the one anxiety of the cavalry was to get out of the fight as quickly as possible. The conduct of the whole expedition was execrable, and was the subject of official investigation. The loss of the cavalry was 139 killed and wounded and 194 missing.

July 5th to 21st another expedition consisting of two divisions of infantry and 3,000 cavalry was sent from LaGrange to Tupelo. At the latter place July 14th General Forrest was defeated by the infantry, one brigade of cavalry observing each flank during the battle. The loss of the cavalry was seven killed and fifty-five wounded. The expedition then returned on account of lack of forage and supplies. The cavalry acted as rear guard during the return. (W. R. 77, pp. 250, 256, 304.)

Determined to destroy General Forrest's command, a third expedition was sent from LaGrange to Oxford August 1st to 30th. The force consisted of 13,000 infantry and 4,000 cavalry. (W. R. 78, p. 242.) This expedition did not succeed in bringing General Forrest to action. He slipped by and attacked Memphis August 21st, during the absence of these troops, and succeeded in penetrating the city and capturing some prisoners, but was driven out. (W. R. 78, p. 282.)

General Forrest then passed into northern Alabama and middle Tennessee, remaining from September 16th to October 10th, during which time he was practically unopposed by cavalry. The force near him was ineffective, comprising about 1,000 at Huntsville, a like number at Pulaski and at Columbia (W R. 78, p. 406), and in addition to these, about 3,500 at various other places, none, however, in condition to take the field.

October 24th General James H. Wilson was assigned to command the cavalry of the Division of the Mississippi. (W. R. 79, p. 414.) His appearance on the scene was marked by energetic measures for increasing the numbers and efficiency of the cavalry. His first act was to order all dismounted cavalry to Nashville. He then ordered General Hatch's division from Memphis to Nashville; ordered General Grierson to collect the balance of the cavalry at Memphis and be ready to join; and took steps to have Colonel Winslow's division return from Missouri. He ordered 10,000 horse equipments, 10,000 Spencer carbines, and 300 rounds of ammunition per carbine. (W. R. 79, p. 417.)

General Kilpatrick's division was fitted out and mounted at the expense of General Garrard's division. The latter was ordered to move to Nashville, and General Garrard was ordered then to turn over the command of the division to Colonel Long. (W. R. 79, pp. 494, 511.) General McCook's division was also ordered to Nashville October 31st. (W. R. 79, p. 531.)

The return of October 31, 1864 (W. R. 79, p. 573), shows a total of about 24,000 cavalry in Tennessee, Alabama and Georgia, and 5,700 in

Missouri, the latter including Colonel Winslow's division. General Kilpatrick was sent with General Sherman, and Colonel Winslow's division was ordered up. Finally, November 6th orders were issued to General Grierson and to the cavalry at Vicksburg (except one regiment) to proceed to Nashville (W. R. 79, p. 662), thus completing the arrangements for the concentration of all of the cavalry of the Division of the Mississippi (except General Kilpatrick's division) at Nashville, a grand total of about 25,000 men.

November 9th the order for the organization of a cavalry corps was issued. The corps was to consist of eight divisions of two brigades each, each brigade consisting of five regiments. The commanders whose services had been unsatisfactory were relieved. The new organization was as follows:

Cavalry Corps, Brevet Major General J. H. Wilson. First Division, Brigadier General E. M. McCook; Second Division, Brigadier General Eli Long; Third Division, Brigadier General J. Kilpatrick; Fourth Division, Brigadier General B. H. Grierson; Fifth Division, Brigadier General E. Hatch; Sixth Division, no commander designated; Seventh Division, Colonel Spalding; Eighth Division, to be organized.

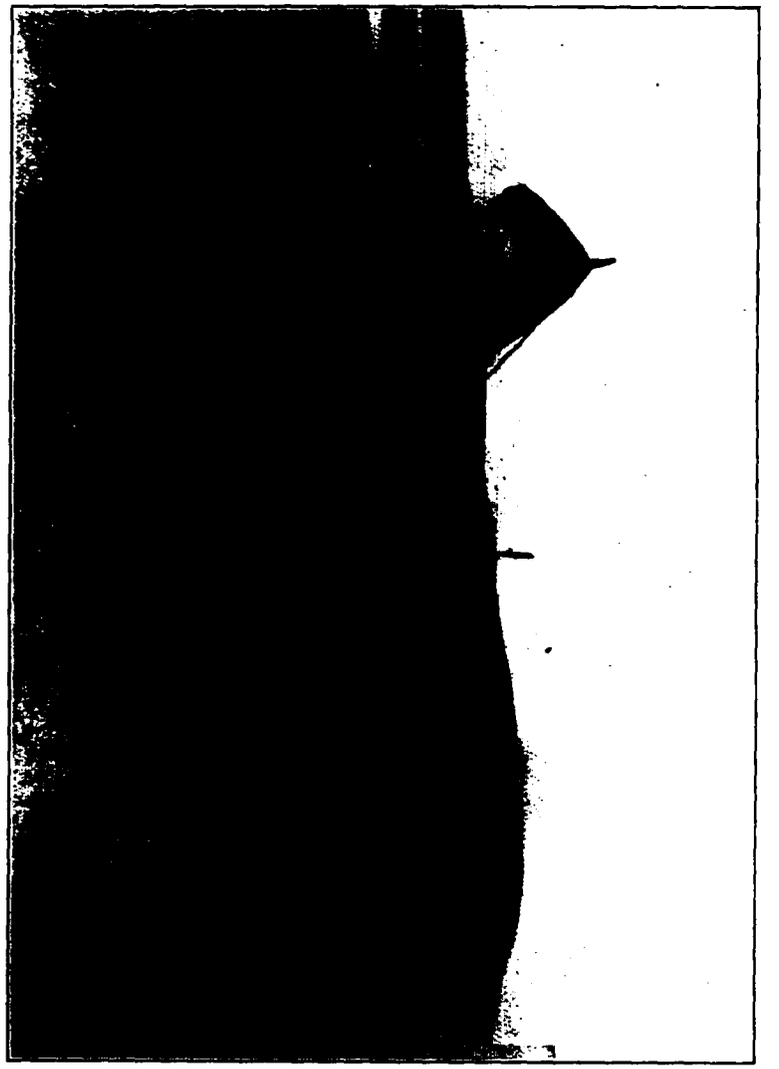
Franklin and Nashville.

When General Hood began his movement against Nashville, not much had been accomplished toward refitting the cavalry corps. The original movement by General Hood westward to Tuscumbia was discovered by a reconnoissance by General Garrard's division.

Of the cavalry at Nashville, one division and two brigades (4,300) were sent forward to watch the Tennessee River and observe General Hood's army. One brigade was driven from near Bainbridge October 30th, and from Shoal Creek November 5th. A reconnoissance in force was made to Florence November 9th, and the cavalry continued to reconnoiter until November 21st, when General Hood's advance began.

The Federal cavalry had a severe engagement with the Confederate advance at Lawrenceburg November 23d, held the position until night, and then retired. November 23d the cavalry retired to Campbellsville skirmishing, was driven from this place November 24th, and retired to Lynnville. November 25th the entire cavalry force was concentrated at Columbia, and was posted to watch the crossings of the Duck River. The Confederate cavalry forced a crossing and the Federal cavalry was concentrated at Hurt's Cross Roads November 28th. November 29th the cavalry retired skirmishing heavily to Douglass Church, four miles south of Franklin, and part of it crossed the Harpeth River. November 30th one brigade of cavalry was in front of the position at Franklin, repulsing the first advance. It then crossed the river. The whole cavalry force engaged the Confederate cavalry, which crossed the Harpeth in the afternoon.

On the night of November 30th the cavalry covered the withdrawal of the infantry from Franklin, and covered the flanks and rear in the retreat to Nashville.



OWNER, CAPTAIN LANNING PARSONS, 9TH CAVALRY.

December 2d the cavalry was ordered to the north bank of the Cumberland, and remained there refitting until December 11th, having in this interval been increased by reinforcements till it numbered 12,500 men with 9,000 horses. December 11th this whole force crossed to Nashville, and was ordered to the right flank of the line.

One division and one brigade were ordered to attack along the Hardin pike, one division to take a Confederate battery on the river west of Nashville, and one division to remain in reserve. In the battle of Nashville December 15th and 16th, the cavalry fought dismounted on the right flank of the infantry, their task being to attack and envelop the Confederate left. This work was accomplished, in the course of which one division of cavalry captured two Confederate field works and their artillery.

On the evening of December 16th the horses were ordered up and dispositions made to mount two divisions for the pursuit of the Confederates. This pursuit began early on the morning of December 17th, the Confederate rear guard being encountered and defeated one mile from the position of the previous evening. The pursuit was joined in by the rest of the cavalry, and the attempt was made to get in rear of the Confederate army, but was not successful. The Confederate rear guard was driven from successive positions at Hollow Tree Gap and Franklin without heavy fighting.

The cavalry reached a point seven miles north of Columbia December 18th, and December 19th were stopped by Rutherford's Creek, which was swollen by rains and could not be crossed. One division crossed December 20th, only again to be barred by the Duck River. December 24th the whole cavalry force crossed the Duck River. A sharp action was fought with the rear guard December 25th, in which the Confederates turned on one brigade and drove it back. December 26th the pursuit was discontinued, the delay at the Duck River having spoiled the chance for further damage to the Confederate army. The return of General Forrest also had something to do with the situation.

During this campaign the cavalry captured thirty-two guns and 3,200 prisoners, with a loss of 122 killed, 521 wounded, and 259 missing.

On December 11th General McCook had been ordered with two brigades to Bowling Green to look after a Confederate raiding force which he defeated at Hopkinsville December 16th.

General Wilson on December 30th asked permission to concentrate his corps for recuperation and refitting, preparatory to a spring campaign. General Thomas ordered him to send one division to Eastport, Miss., and the balance to Huntsville, Ala. While this movement was in progress General Grant ordered a continuance of active operations, and General Wilson was ordered to concentrate his corps at Eastport. While en route he was halted to look after the Confederate force against which General McCook had been operating, but it escaped, and the cavalry corps was finally concentrated at Gravelly Springs, Ala., about January 15, 1865. (General Thomas' report, W. R. 93, pp. 32–47; General Wilson's report, W. R. 93, pp. 554–571.)

The return of December 31, 1864, shows the cavalry corps to have numbered about 23,500 present for duty. (W. R. 94, p. 465.) General Wilson's idea was to raise the effective *mounted* strength to 25,000.

East Tennessee.

A force of three regiments of cavalry had been left in east Tennessee under General Gillem. This force was attacked and routed November 13th at Morristown by a Confederate force of about 3,000 men under General Breckinridge, losing several hundred prisoners and the artillery. General Gillem escaped to Knoxville, with about 1.000 men. (W. R. 93, p. 36.) General Stoneman took charge of the punitive expedition against the Confederates. His force consisted of 4,200 mounted men from Kentucky under General Burbridge, and General Gillem's command, now numbering 1,500. The expedition left Knoxville December 10th, routed and captured or dispersed a Confederate force of about 1,200 at Kingsport December 13th. The expedition then proceeded via Abingdon, Va., to Marion, where December 16th and 17th General Breckinridge was defeated. The lead mines near Wytheville, Va., were destroyed December 17th, and the salt works at Saltville, Va., were captured and destroyed December 21st and 22d. The expedition returned to Knoxville December 29th. (W. R. 93, pp. 806–11.)

General Gillem's division of three brigades remained at Knoxville until the middle of March, 1865. March 22d, it was concentrated at Mossy Creek and moved on an expedition through east Tennessee, North Carolina and Virginia. Wytheville, Va., was captured April 6th, after slight resistance, as was Martinsville, N. C., April 8th, and Salisbury, N. C., April 12th. At the latter place an immense amount of military stores was destroyed. Hendersonville, N. C., was captured April 23d, and at Asheville, N. C., General Gillem was informed of the truce between Generals Sherman and Johnston, and his operations came to an end, except for a concentration and march for the purpose of attempting to intercept the fleeing Confederate President.

General Stoneman commanded this expedition until April 17th, and General Gillem after that date. One division of infantry followed the column and secured the passes when the cavalry moved east of the mountains. (W. R. 103, pp. 330–338.)

Western Tennessee.

An expedition of 3.500 cavalry under General Grierson started from Memphis December 21st, and proceeded via Verona and Egypt, Miss., to Vicksburg. Unimportant actions were fought at Verona December 28th, and at Franklin January 2d. The expedition destroyed a large amount of stores at Verona and at other points along the route. (W. R. 96, pp. 844–6.)

General Wilson's Raid.

After the Franklin and Nashville campaign, the idea of prosecuting active operations continuously was given up, and an infantry division and 5,000 cavalry were sent to General Canby to assist in a campaign against Mobile. This cavalry force left Nashville February 12th and was placed under the command of General Grierson. It took no active part in the operations against Mobile. After its capture, the

cavalry was ordered from Blakely, Ala., April 17th, marched to Greenville, Ala., and thence one column to Georgetown, Ga., and the other to Union Springs, Ala., at which points operations were arrested by the armistice. The wholesale destruction of property characteristic of other raids at this time was omitted by General Grierson on account of the evident close proximity of the end of the war. (W. R. 103. pp. 300–301.)

General Wilson's main command remained at Gravelly Springs. February 13th General Grant ordered the movement to be known in history as "Wilson's Raid." Due to the state of the roads and to the necessity of recuperating after the Franklin and Nashville campaign, General Wilson was not ready to start until March 22d. When he did start one division remained at Eastport and one at Pulaski, as it was impossible to fully mount them. The division at Eastport was dismounted and their horses taken to complete the mounting of the three divisions that were to take part in the raid. This division then gave an example of self-sacrifice by voluntarily giving up their Spencer carbines in order that they might be used to arm as well as possible these same divisions for which their horses had been taken.

General Wilson, with three divisions, General Upton, General Long and General McCook, a total of 13,563 men (W. R. 104, p. 170), left Chickasaw, Ala., March 22d, and reached Elyton, Ala., March 30th, after a difficult march. One brigade was detached to Tuscaloosa, which was captured April 4th. This brigade then continued through northern Alabama, captured Talladega April 22d, and rejoined the main command at Macon, Ga.

The remainder of the force proceeded to Montevallo, where a Confederate force was routed March 31st. Selma was captured by a dismounted attack April 2d, with 2.700 prisoners and twenty-six guns. General Forrest was in command of the Confederate forces at Selma. General Wilson remained at Selma until April 10th, destroying the military stores and property there.

Again advancing, Montgomery surrendered without resistence April 12th. April 14th one division was sent to Columbus, and three regiments to Opelika. Columbus was captured April 16th by a dismounted attack made by 400 men. This was one of the most brilliant exploits of this campaign. The prisoners captured numbered 1,200 with fifty two guns. Immense quantities of war materials of all kinds were destroyed at Columbus.

April 16th one brigade captured Fort Tyler at West Point, Ga., after a stubborn resistance. April 20th Macon, Ga., was captured, and there on April 21st General Wilson was notified by General Sherman of the armistice.

April 27th came the order from Washington to resume operations on account of the disapproval of the terms of the armistice by the Secretary of War. Both the cavalry in North Carolina and General Wilson were ordered to make the necessary dispositions to capture the Confederate President.

General Wilson was then notified of the surrender of General Johnston, disposed his forces across Georgia, and on May 10th closed

the operations of the Federal cavalry by the capture of the fugitive Confederate President. (General Thomas's report, W. R. 103, pp. 342–8; General Wilson's report, W. R. 103, pp. 350–402.)

Operations West of the Mississippi River.

In the general outline of operations, no mention was made of the operations west of the Mississippi River after the middle of 1862, for the reason that these operations were comparatively unimportant, and to attempt to carry the account along would introduce complications which it was desired to avoid.

Although involving a considerable force, there are but two periods at which the operations west of the Mississippi reached sufficient magnitude to require attention. These are the Red River expedition, March 10 to May 26, 1864, and General Price's Missouri expedition, September 19 to December 2, 1864.

On the Red River expedition, General Banks had a force of 28,250 infantry and a division of cavalry under General Lee, numbering 5,250. (W. R. 61, pp. 167–8.) This cavalry was concentrated at Franklin, La., by March 14th, and marched to Alexandria, arriving March 19th. March 20th to 21st, an expedition of one brigade and two regiments of cavalry was sent to Henderson Hill, where the Confederates were encountered and defeated. Four guns and 300 prisoners were captured. The cavalry was supported by infantry in this action.

March 28th to 31st the cavalry moved forward to Nachitoches in advance of the column. A skirmish occurred at this point. April 2d, the entire cavalry force of three brigades defeated a Confederate force of 2,000 at Crump's Hill, fighting both mounted and dismounted. April 4th to 8th the cavalry continued in the advance, skirmishing at Campti, and more severely at Pleasant Hill. In the latter action, the fighting was principally dismounted, two brigades executing a dismounted charge. April 8th, at Sabine Cross Roads, the Federal cavalry division was defeated. One brigade fought dismounted. The artillery and the trains were close up, and were captured. The loss in men was about twenty per cent of the command. This action was the turning point in the campaign, and the army retreated to Grand Ecore by April 21st, the cavalry forming the rear guard, and being several times engaged.

At Monett's Ferry, the cavalry passed to the front and attacked the Confederates April 23d and defeated them, clearing a crossing for the army. The Confederates attacked the next day, but were defeated. April 25th to May 13th, the army lay at Alexandria, protecting the fleet which accompanied the expedition and was held there by low water. The cavalry was engaged in constant skirmishes during this period. The fleet having been released by the construction of wing dams, the retreat was resumed May 14th. The cavalry covered the rear, one brigade being engaged at Moreauville May 18th. Donaldsonville was reached May 26th. (W. R. 61, pp. 444–455.)

General Steele's Expedition.

In connection with the Red River expedition, General Steele moved from Little Rock towards Shreveport with a force of 8,000 infantry and 4,500 cavalry. More than half of this cavalry was dismounted, and the rest very poorly mounted. General Steele left Little Rock March 23d, and returned May 3d. The expedition was turned back by the capture of its entire train at Mark's Mill April 25th. The cavalry played no important part in this campaign. (W. R. 61, pp. 659–669.) Three hundred cavalry were engaged at Poison Springs April 18th, and were badly defeated. (W. R. 61, p. 746.)

General Price's Missouri Expedition.

General Price's Missouri expedition was made with a force of about 15,000 mounted men. To oppose him were the troops in Missouri and Kansas, under Generals Rosecrans and Curtis. Colonel Winslow's cavalry brigade, 2,000 strong, was withdrawn from Memphis September 2d, crossed into Arkansas and marched to Cape Girardeau October 5th and there embarked for St. Louis, arriving by October 10th. (W. R. 83, pp. 327–30.) The brigade then moved westward, and was incorporated into the provisional cavalry division under General Pleasonton. This division then numbered about 4,500 men, and was organized into four brigades. Engagements occurred at the Little Blue River October 22d, and at the Big Blue River October 23d, in which Colonel Winslow's brigade bore the brunt of the fighting dismounted. General Price was defeated at the Big Blue and retreated, pursued by the cavalry. He was attacked by the cavalry at the Osage River October 25th, and defeated with a loss of eight guns and 1,000 prisoners.

General Price was pursued as far as Fort Scott, Kan., where the pursuit was discontinued October 27th, on account of lack of forage and the exhaustion of the command. The cavalry then returned to its former stations at Springfield and Rolla (W. R. 83, pp. 336–43), and preparations were made to send Colonel Winslow's brigade to Nashville.

While the cavalry force of General Pleasonton was considerable in numbers, it was composed largely of militia, and Colonel Winslow's brigade was the most effective portion of the command.

The Records of the Rebellion give many accounts of small expeditions and skirmishes in Missouri and Arkansas during 1864–5, all of minor importance.

The operations west of the Mississippi scarcely merit the designation of "military operations," and the mounted portions of the forces engaged are hardly entitled to be called "cavalry."

* * *

PURCHASE OF HORSES.

At the beginning of the war, the purchase of horses by the regular staff departments was provided for by the Army Regulations, and these provisions were reiterated in an order of the Secretary of War. (W. R. 8, p. 396.)

Notwithstanding all this, General Fremont promptly appointed a civilian to the position of inspector of horses for the Western Department, and sent him to Cincinnati. This inspector received two and one half per cent of the purchase price as a fee for inspection. Needless to say, as soon as this absurd arrangement came to the notice of the Quartermaster General, he took steps to stop it, and the purchase of animals reverted to the Quartermaster's Department and to the contract system.

The allowance of forty cents per day for the use and risk of private horses was found to work unsatisfactorily. After being in force for some time, it was discovered that most of the men drawing this allowance were mounted on horses properly belonging to the government. In 1863 this arrangement was terminated by the appraisal and purchase by the government of all private horses.

Many remounts were secured by impressment, certificates being given for subsequent payment. Under the Cavalry Bureau the purchase of horses was finally reduced to a proper basis of purchase by contract and inspection by cavalry officers. At the same time, proper provision for depots for recuperation was made, and such orders issued as would cause a proper disposition of unserviceable horses to be made.

In the efforts to mount General Wilson's cavalry corps at the end of 1864, impressment was resorted to and allowed to include mares, a thing theretofore prohibited.

SUPPLY.

In general the forage and rations of the cavalry were of regular issue. Whenever it was practicable foraging was permitted and required. In middle and west Tennessee foraging was ordinarily impracticable, all supplies having been secured by the Confederates. In east Tennessee in General Sherman's final campaign, and in Wilson's raid, the cavalry lived mainly off of the country, carrying only a small amount of forage and rations for an emergency, and such supplies as horseshoes and salt, which could not be found in the country. As always, foraging was injurious to discipline and fatiguing to the horses and men.

GENERAL REMARKS.

The study of the operations of the Federal cavalry with the armies in the West is a distinct disappointment to those who seek brilliant examples of the proper employment of this arm.

Until 1863 the cavalry was badly organized and armed, and was frittered away in small detachments whose movements are difficult to follow and were without important purpose. Moreover, until the very end of the war, it was inferior in numbers to the Confederate cavalry to which it was opposed, and always had the disadvantage of operating in a hostile country.

When the appeals of Generals Buell and Rosecrans for cavalry had been answered, and the cavalry division under General Stanley had been organized, its part in the battle of Stone's River is a disappointment. The operations in the Chickamauga campaign and immediately after were an improvement, but still nothing remarkable.

The work of the cavalry corps and of General Stoneman's division in the Atlanta campaign was far from what it might have been, and around Atlanta Generals McCook, Stoneman and Kilpatrick in turn suffered defeat.

In western Tennessee the story is much the same. The cavalry assisted materially in the Vicksburg campaign, General Grierson's raid through Mississippi being a brilliant piece of work. The efforts against General Forrest in northern Mississippi in February, June, July and August, 1864, were without material result, and the first two ended in disaster.

The raids in the spring of 1865 were made at a time when the Confederate forces were disintegrating and met with no decided opposition.

Military reputations like that of General Forrest must be built up at the expense of his opponents, and he levied on all without partiality, continuing to the close of the war to ride almost at will over Tennessee, Mississippi and Alabama, always dangerous to small, isolated forces, and fighting larger ones only when he chose.

Only in the winter of 1864 and 1865 did the Federal cavalry in the West become formidable in numbers and in the field. The operations at Nashville and in the raid through Georgia show that the Federal cavalry finally reached a degree of efficiency which it is to be regretted was not attained at an earlier date.

THE AVENGER OF BLOOD.

By THE AUTHOR OF "THE BATTLE OF THE SHADES."

FRANCISCO LOPEZ was a little boy playing about the streets of Naga, in the South Camarines province when the American troops came that way. His father had been killed in the insurrection of 1896, and his brothers had instilled into his young mind a hatred of white people. He believed they were all tyrants and oppressors. He liked the Americans when they whipped the Spaniards and sunk all their ships in Manila Bay, but his admiration turned to hatred when he was told that they were going to take his country and live in it. His two big brothers had marched out with the insurgent forces to live in the marshes and mountains, and fight the Americans.

As Troop K of the Sixteenth Cavalry entered the town, divided into squads and explored each street, he gathered up the pennies with which he had been gambling, and stood against the wall of a *tienda*, watching them. The big horses and the clanking equipment interested him, but his stolid little face gave no sign.

A lieutenant at the head of a section, the support of the advance guard, rode up, halting his command near the *tienda*. The older people had gone into their houses on the approach of the Americans. The lieutenant saw the boy, and, thinking him a probable source of information, went up to him. Francisco watched him stolidly.

"*Donde los insurrectos?*" he asked.

"*No intendo, Señor,*" replied Francisco, lying most loyally, for as a matter of fact he understood Spanish very well.

The officer called a Vicol interpreter, and proceeded further to question the boy. The information he got was

meager, and all as false as it could be made and still seem plausible. Francisco had seen many insurgents, but they had all gone away. They had gone the day before, and he didn't know to what place. No, he didn't know who was in command of the insurgents. He did not know where any cuartels were, and he was not familiar with any of the roads about the town.

"Well, you are either a remarkable ignoramus or a remarkable liar," remarked Lieutenant Shelton.

"*No intendo, Señor,*" said Francisco.

The column came in, and the town having been outposted, the cavalry was assembled and a picket line arranged. Captain Helm and Lieutenant Shelton settled themselves in an abandoned house which was marked on a plan of the town furnished from Manila, as that of "Colonel" Capistrano, of the insurgent army.

They had just finished a light lunch, sent over from the troop, when a plaintive voice called up the stairway: "*Permiso, Señor?*

"Come in," called Shelton.

Francisco appeared at the head of the stairs, and stood bashfully rubbing the top of one bare foot with the toes of the other, and twisting a remnant of a Spanish straw hat in his hands.

"Hello there! What's the matter now, *muchacho?*" queried Shelton in army Spanish. "Have you thought of something else to forget since I saw you?"

"Do you want a boy to work?" asked Francisco, seeming to speak Spanish with great difficulty.

"You are an insurrecto! I don't want you," returned Shelton.

"I am not an insurrecto. I am a friend," protested the boy. His Spanish had improved greatly.

"That boy looks all right," said the Captain. "We'll have to have somebody. Strike a trade with him and we'll try him. He doesn't look big enough to be very villainous."

Francisco was not hard to make a trade with. He only wanted ten pesos (five dollars gold) per month, and in a few minutes he was installed as maid of all work in the

establishment of Captain Helm and Lieutenant Shelton. He swept and oiled the floors, cleaned the furniture, looked after clothing, polished shoes, and did all the odd jobs. As a servant of the Captain he was tolerated about the troop, where seemingly he liked to spend his leisure moments. He didn't seem to have any relations in town, and said that his mother had gone to another town some distance away. This was not considered strange, as a boy can safely be left to the care of the elements and his own devices in the Philippines.

Captain Helm and Lieutenant Shelton soon forgot his existence except when he was wanted for something. They thought of him as a good servant, but somewhat dull of comprehension.

The insurgents about Naga were guerillas of the worst order. Their hiding places were in the nipa swamps and hemp-covered mountains. They made sorties, wrought murder and mischief, and disappeared. The troops marched day and night, and resorted to ruses of all sorts, but to no avail. If a wagon train under small escort was sent from Naga to Nueva Caceres it was sure to be attacked by overwhelming numbers. A similar train sent as a decoy with troops following it at a distance, would be undisturbed. The insurgents knew every move of the Americans. Expeditions sent out in the dead of night failed to surprise anyone. Natives in the town would tell the garrison that the soldiers who had gone out in the night had found nothing long before any official word had come back from them.

One night Captain Helm's troop was awakened very quietly soon after midnight. No lights were made. The men were sent out one by one to saddle their horses, and ordered to assemble under a clump of mango trees, beyond the outposts, on the upper river road. The trumpeters took the officers' horses out. After a sufficient time for the troop to assemble, Captain Helm and Shelton left their quarters and went cautiously past the outposts. Reaching the troop they mounted and without command a sergeant moved forward into the darkness as advance guard, and soon the officers and the troop followed. All was done quietly, no

one speaking. Saddles were so packed that nothing rattled.

"I believe we got away without anyone knowing," said the Captain, when they were well on the trail. "No one knew of the order except the commanding officer and you and I."

The officers forgot one small person. Francisco was not told, but he found out. As the Captain came out of his room a small head was raised from a cot in the corner of the hallway, and Francisco watched him pass carefully down the stairs. He was about to get up when the Lieutenant also came out and passed down as noiselessly. Now Francisco was sure something was going on.

Slipping on his blue checkered suit, he went out as carefully as the officers had gone, and dodging along by the fence reached the picket line. The horses were gone. The troop must have gone by the upper river road. To make sure, he cut loose the only horse that was left behind. It ran toward the outpost on the upper river road.

It was the work of only a few minutes to slip out between the outposts, the intense darkness making this easily possible for a single person. At the house of his cousin, Filipe, he rattled the bamboo door lightly and whispered, "Filipe! Filipe! Go by the upper river road. Americans have just gone that way."

"*Si*," said a voice on the other side.

Francisco turned back toward town and in a moment a figure came down the ladder, mounted a pony which was already saddled and tied under the house, and rode away, taking a dim trail through the bamboo.

Francisco returned to the house and slept well. The next morning he went to the sergeant major's quarters and seeming greatly concerned, said that the Captain and the Lieutenant were gone. He was reassured when told that they had gone out with their troop.

Filipe was one of the couriers who were always ready to carry news of American expeditions going out from Naga. He had gone many times before. He had always followed the dim trail in the bamboo until he was about four miles from town, where he entered the main road and sped on

ahead of the troops. This time he failed. The troops rode faster than he thought. When he entered the main trail his pony almost ran into a big American horse, and in an instant a pistol ball ended Filipe's life.

"He was a courier," said the Captain. "Now, how in the devil do you suppose he found out we were out? Well, he won't deliver his message now."

The expedition succeeded. At dawn the following morning, detachments of the troops took station around a field of nipa palms and vine-like brush, which had often been passed by expeditions. Taking a platoon with him, and guided by a Filipino prisoner who had been brought from the post and was now inspired by the officer's revolver at his back, the Captain followed a barely visible path under the tangled growth. After a time they came to an open space where the prisoner pointed out a cuartel. The troop rushed upon it. There was a short fight, and the troop had killed or captured nearly all of "Colonel" Capistrano's band, including the worthy "Colonel" himself. The cuartel, which seemed to be also a sort of clothing depot, was burned.

Among the prisoners taken back to Naga was one young Filipino officer, whose arm had been shattered by a bullet. Francisco's heart ached when he saw this wretched prisoner being taken to the hospital that afternoon, but his face gave no evidence of grief, or even recognition. The prisoner was his brother, Alejandro. Filipe was not there and Francisco wondered where he was.

Days passed, and there was no news from Filipe. One day the Captain was talking with a Spanish guide about the roads near the town, at the same time following them on a map. Francisco was oiling the floor in the next room.

"Is there any road entering this upper river road about here?" the Captain asked. "The night we went out and captured Capistrano and his band a Filipino rode into the trail about here and Sergeant Short shot him. He was probably a courier, but where did he come from?"

The guide could give no information. Francisco knew. The words brought new grief to him. Filipe was dead, and buried by the road side in unconsecrated ground.

Sergeant Short had killed Filipe. Francisco hated him, and silently plotted his revenge.

A few days later Sergeant Short reported that some one had stolen his revolver. A seaching investigation was made, but no trace of it could be found. There had been no natives about the quarters. Yes! Francisco had been around there, but he didn't take it, for the officers' revolvers were always available for him to steal, and he had never touched them. In fact, he seemed to be afraid of firearms. The revolver was charged against the Sergeant and its loss listed with the troop mysteries.

Sergeant Short was in the habit of going to a house near the river to play monte with a Filipino family, in which there were some pretty girls. One night he was returning late and, as he was passing a broken place in a wall, a shot blazed from the fragment of the wall, and he fell dead. It was another mystery. Among the broken pieces of the wall the Sergeant's own revolver was found.

Just after the officers had responded to the alarm that was raised, a little form slipped into their house by the side door. When they came back Francisco was apparently asleep in his cot in the hallway.

A few days later Juan Cruz, a brother of Filipe, came in from the camp of "General" Legaspi. He had a sad story to tell. When Legaspi had heard of the taking of Colonel Capistrano's camp he had sent for Gregorio Lopez and demanded a reason for Filipe's failure to perform his duty by bringing news of the expedition.

"I do not know, my General," replied Captain Lopez. "The last I heard, he was on watch at his house, and my little brother was working in the cavalry captain's house. I have not heard from him since, nor from my brother Alejandro. I fear my brother was killed.

"You need not fear," roared the General. "Your brother is now with the Americans and well cared for. Your family seems to do well with the Americans. Take this detachment here and make a scout to Colonel Capistrano's old cuartel and see what you can find out."

That order was Gregorio's death warrant. He went with the detachment, and late that day the detachment returned and reported that they had been fired upon by the Americans and that the captain had been killed. Francisco knew that no Americans were out that day, and told Juan so. Juan had suspected before that Gregorio had been murdered.

"General" Legaspi, evidently controlled by the evil destiny which causes men of evil deeds to make errors which are their own undoing, had sent Juan to Naga to take the post of courier and to report what he could learn about Filipe. The "General" had overlooked the fact that he was a brother of Filipe and a cousin of Gregorio.

"Do you know the way to the place where General Legaspi will be to-morrow?" asked Francisco.

"Yes," answered Juan, "and if I should be captured by the Americans they would probably torture me until I would have to show them."

"They would bind you and command you to guide them, and if you failed to guide them properly, they would kill you," suggested Francisco.

"I would have to take them to the cuartel," said Juan.

Francisco went to the Captain's quarters, and finding him alone, said mysteriously, "One of General Legaspi's soldiers is in town. He is not a brave man, and if he is caught and tied and you tell him you will kill him if he doesn't guide you to the camp of the General, he will do so."

"Where is he?" asked the Captain quickly.

"In the fifth house beyond the outposts on the right of the road to Mabato-bato," said Francisco. "His name is Juan."

Taking two men with him Captain Helm went to the house and found it an easy matter to secure Juan. He did not stop to question the prisoner, but reported at once to the commanding officer, and was given permission to take his troop and go on an expedition after Legaspi.

The troop was saddled at once, and placing Juan on a big American horse, the Captain moved out, riding rapidly until the point where Filipe had entered the road was reached.

A short halt was made and the Captain told Juan he was to lead them to General Legaspi's camp.

"I do not know where it is, señor," he replied.

"I know you are an insurgent, just come from him," said the Captain, "and it's no use to lie."

"I am not an insurgent," maintained Juan.

"Sergeant! tie him on his horse, and if he guides us into an ambush you are to kill him. Take him with you on the point."

Juan was then tied fast on the horse with a lariat, and the Captain explained the orders he had given, and also said that if he failed to take the command to the camp he would be killed and left in the jungle. Juan made no reply or comment. He looked hopelessly about him as the sergeant led his horse up to the point of the advance guard.

All night long the troop blundered along over a trail which was often so closely overhung with bamboo that the men had to dismount and walk. Juan was left on the horse to do the best he could. Toward morning they found the trail was ascending the mountain along a ravine.

Just before dawn Juan wanted to speak to the Captain, as he said they were near the camp. When Captain Helm came up the prisoner explained that the camp was in the ravine, about a half mile beyond. It was in some thick bamboo where the ravine was wide and shallow. The higher ground was open. There was an outpost about a quarter of a mile ahead on the trail. There were no outposts on the flanks or rear of the camp.

Shelton was sent around the right to gain the right and rear with one section, while the first sergeant was to gain the left and rear with another.

When it became light enough to see, the Captain moved forward to a frontal attack. The insurgent outpost fled after firing a single shot. A storm of bullets followed them, but not a man fell. It is wonderful how many bullets can miss a man. Then firing was heard from the right and rear, and then from the left and rear. In a moment scurrying figures appeared in front of Captain Helm's men, and were greeted with a volley that sent them scurrying back.

The three parties closed in rapidly. A figure, clad only in underclothing, ran toward Captain Helm's men with a white flag. "Cease firing" was sounded. The man with the white flag was "General" Legaspi. The surrender was complete. Soon the cuartels and storehouses were burning, and the soldiers amused themselves by blowing up a primitive arsenal and powder factory.

Shelton approached Juan and started to loose his hands, but he protested. "No. Take me back bound, and let the people see," he said. He was left bound.

"General" Legaspi observed to one of his fellow prisoners: "Some Americanista has betrayed Juan, and they have forced him to betray us. See how he has suffered. He was loyal."

Juan remained a fellow prisoner with the "General" until they were both released under the general amnesty order.

Francisco trailed along with the troop when it went north. Somehow he felt lost away from it. The doctors cured Alejandro's wound, and Francisco forgot the grudge he had held on account of his brother having been wounded. When the troop came to the States he came with it, and now lives at an army post, still working for Shelton and doing odd jobs for spending money.

"I suppose he was an insurrecto at heart," Shelton remarked to a friend, "but not a treacherous one. He has always been loyal and faithful."

ODDS AND ENDS OF IMPROVEMENT.

By Captain WM. W. FORSYTH, Sixth Cavalry.

IN choosing a subject for the essay required by the recent General Order of the War Department, the writer has been mindful of the injunction that subjects of immediate military importance should be preferred to those of mere historical interest. That injunction places the essayist on a strictly business basis and makes the same demand of him that the spirit of the age makes of everybody: *i. e.*, your wares must be useful as well as ornamental; if they cannot be both. discard the ornaments.

The age in which we live is matter-of fact, practical, and progressive; it has little patience or even tolerance for what is merely pleasing or ornamental, and our profession, more perhaps than all others, shows how relentlessly the useful has attacked the beautiful or spectacular. The pomp and panoply of war is going, if it isn't gone. The flounces, frills, and furbelows of the military calling are passing, if they have not passed. The soldier no longer goes forward on the battlefield arrayed in brilliant uniform and inspired by the strains of martial music from a hundred bands. Or if he does, he at once calls forth the Frenchman's exclamation, "It is magnificent, but it isn't war!" So, when we read of Russian bands playing on the battlefields in Manchuria we are either incredulous, or we note it as an indication that the Russians are behind the times, and our surprise at their reverses is swallowed up in amazement at their folly.

The spirit of the age whispers to us that a hundred bands means 2,000 men, and that if men are scarce, 2,000 men with rifles in their hands might turn defeat into victory; or, if

men are plentiful, the place for the bands is the camp and the hospital for the diversion of the sick and wounded.

The touchstone of every new invention and of every new idea is utility, and every old invention and every old idea survives only as long as it can maintain its superiority over the new, and thus we see in progress in the inanimate world a struggle for existence and a survival of the fittest not unlike what occurs in the creature kingdom.

In the search, therefore, for a subject that would fulfill requirements, and at the same time perhaps escape the attention of other writers, a number of things have been found, not each in itself of sufficient importance for an essay, but when taken together might justly be so considered.

It would be an improvement in the way of increased efficiency if each cavalry squadron had a quartermaster sergeant. When the army reorganization measure of 1901 became law its failure to provide such a sergeant was, to many, so striking that the omission was believed to be an oversight. The provision of a squadron sergeant major gives only partial relief to a trying and vexatious state of affairs that arises whenever a cavalry regiment takes the field for an extended period. That is, the detail away from their troops, where they are presumably efficient, of a number of noncommissioned officers for the performance of staff duties of which they are, as a rule, utterly ignorant. Of course they are inefficient.

Whenever a cavalry regiment goes to the field in one body the regimental quartermaster sergeant is, if he does his duty, an over-worked man. The fact becomes apparent at once, and several of the aforesaid noncommissioned officers are detailed to his assistance. Formerly, this might have been said with equal force of the regimental sergeant major, but the provision of the squadron sergeant major has relieved the pressure there.

At this most inopportune time, then, we find the regimental quartermaster and his sergeant occupied in teaching inexperienced noncommissioned officers their new duties, sometimes to the neglect of other important and pressing official business.

Again, if a squadron is detached a noncommissioned officer must be detailed from some troop to act as its quartermaster sergeant, and, as in the other cases, he is usually ignorant of what is required of him, and must be taught. It is inadvisable for several obvious reasons to detail a troop quartermaster sergeant for this duty, however well qualified he might be. Again, either the quartermaster or commissary of the regiment is detailed as ordnance officer, and he must make his own sergeant, or some other sergeant, acting ordnance sergeant. He usually makes his own because the other one is ignorant of paper work and there is not time at that strenuous period to teach him.

But this is not all of the evil. In addition to the delays, mistakes, unnecessary labors, and general lack of efficiency in staff administration, brought about by the detail, in this hour of rush, hurry and excitement, of noncommissioned officers to new and unaccustomed duties, there is to be considered the impaired efficiency of the troops from which the men are taken. At this time above all, these men are needed with their troops, and it is a hardship on a troop commander and a serious blow to the efficiency of his troop to take from him on such occasions one or more of his good noncommissioned officers. A full measure of relief from this state of affairs would be given if a quartermaster sergeant were provided for each squadron.

In garrison, if it were a regimental post, one of these might be detailed as overseer in the quartermaster department in charge of the issues and sales of fuel, forage, straw and oil; the second one in charge of shipping and receiving stores, and the third one as post provost sergeant. In case there is no regular ordnance sergeant, the second one instead of serving as described above, should be detailed as acting post ordnance sergeant, and in case there is one, the second one should be detailed as his assistant in addition to his other duties. From time to time all three should be shifted from one duty to another, so that they would all learn the duties of the quartermaster and ordnance sergeants in the post, where the circumstances are favorable for instruction.

If the squadrons of the regiment are at different posts, the same end could be attained by slightly changing the above arrangement. In the field, then, there would be available from the start a sufficient number of experienced sergeants to do the work required without calling on the troops, and the administration of staff affairs would go on with a refreshing absence of mistakes, delays, friction, turmoil and confusion.

Of course this almost ideal condition is based on the supposition that the regimental and squadron noncommissioned staff officers are, in time of war, to serve with their regiments. If, however, they are not; if, instead, they are to be detailed to special duty at brigade, division and corps headquarters, as happened in the Spanish War, then the relief fails of effect, and the ideal vanishes.

ADMINISTRATION.

Much has been done in recent years to foster patriotism and devotion and reverence for the flag. From time to time observances of a patriotic nature have been prescribed with these ends in view. Would it not be in harmony with this policy if each post not otherwise provided with the national colors for ceremonies, should be furnished with one stand of colors, to be carried at all garrison ceremonies by such company as shall be designated by the post commander? It would also add to the dignity and impressiveness of such occasions, it would promote *esprit de corps*, and it would not be expensive

The present method of making issues of clothing will not stand the test of war. It did not stand the test of the Spanish War. It was too slow, and like other methods of administration based on the hypothesis of eternal peace, it went by the board.

Formerly the company commander was accountable for his camp clothing and garrison equipage, and made his own issues of clothing to his men, and while that arrangement had its drawbacks, the clothing feature of it was better in time of war than the present method.

Under this latter method it requires in the field a week or ten days to make a complete issue of clothing to a regiment. Ask any company commander or any regimental quartermaster who served as such during the Spanish War if this is not so.

When the troops that were engaged in the Santiago campaign arrived at Montauk Point, although it was August, the cold winds and fogs that blew across that end of Long Island chilled the men to the marrow, and they had to be supplied at once with warm clothing. In one of the regiments there the following plan was adopted: The clothing called for by each schedule was sorted out and placed in one pile, and the totals of articles called for by the schedule jotted down in a memorandum receipt book; the company commander was then requested to send an officer to receive the clothing, and this officer checked it into the wagons, which had been ordered up from the train to haul it. After checking it he receipted for it in the memorandum receipt book and the clothing schedule was returned to him to be used in making the issues to the men, and later returned to the quartermaster to be extended.

The issues to the men then went on simultaneously in the different companies under the supervision of their own officers, and the plan was so expeditious that the whole regiment was clothed in two days.

The writer believes that the feature of the old system, which made the company commanders accountable for clothing, is more satisfactory in time of war than the present arrangement, and that it is unwise to practice in time of peace methods that, although admittedly in some respects less laborious, will have to be abandoned when war comes.

The regulations now require that the descriptive records of enlisted men shall be kept on loose leaves, and when men become separated from the service their leaves shall be filed away and permanently preserved, but the means for preserving them are not provided. Unless some good binding file be used, the loose leaves are liable to be lost or destroyed; and it is hardly possible to protect them from mutilation or defacement.

The binding file furnished by the government for keeping the loose target record leaves would admirably serve the purpose, and, at the same time, facilitate the use of the leaves.

CAVALRY DRILL REGULATIONS.

The items of improvement that are suggested here in our drill regulations are only such as have, as far as known, escaped the attention of other writers.

The signal prescribed for fours right or left about is, execute rear point and turn the horse right or left about according as the fours are to wheel, but as rear point is to the right rear, the signal for fours left about often confuses the trooper. He sees his officer point to the right about and at the same time turn left about, and much drill and explanation are required to make it clear to him. The signal should be, point the saber to the right or left rear according as it is to be fours right or left about.

In closing chamber, Par. 100, two cases are presented. In the first case each man pulls the trigger and then locks the piece; in the second case he pulls the trigger but does not lock the piece. There is no necessity for locking the piece in either case, as the chamber is empty.

In throwing the horse. Par. 417, it is prescribed that the horse shall be brought down on his right side. In my troop it has proved just as easy to bring him down on his left side, and with the additional advantage that the trooper is behind his head when he comes down and is thus already in position to hold him down.

The regulations do not prescribe that the guidon socket shall be attached to the stirrup, but the ordnance department furnishes them thus attached, and this would seem to have the force of regulation. The writer has found, however, that at drill, at the faster gaits, the sergeant has better control of his guidon if he carries it with the socket strapped around his ankle. The former method is better for the march, the latter better for drill.

The regulations say, Par. 849, that the posts of the majors

in the regiment are the same as in the squadron, except in the line of masses, and then do not inform us where their posts are in line of masses.

Every cavalryman is familiar with the annoyance caused by the flapping of the canteen when the horse is moving at the trot or gallop, and several devices have been tried or suggested for fastening the canteen so that it can have no pendulous motion, but none seems to have given general satisfaction.

The writer thinks he has solved this problem by means of a leather strap passed around the saddle bag and held in place by two loops on the under side of the bag. This strap also passes under the forward strap of the saddle pocket and is so placed that it will pass over the canteen just above its middle when the canteen is hung from the cantle ring. This contrivance has not been thoroughly tested, but so far it promises well. After having adjusted the strap, all that is necessary is for the trooper to snap his canteen into the cantle ring and then push the canteen well down between the saddle-bag and the strap. If it is not pushed well down it will work out.

Finally, we have for consideration the best method of carrying the new Springfield rifle.

Since the Civil War every change that has been made in our carbine has involved an increase in its weight; each new model has been heavier than its predecessor, but, nevertheless, it has always been carried on the saddle. The new rifle with which we are soon to be provided weighs about nine pounds, or nearly double the weight of the carbine of 1863. How shall it be carried in order that the cavalryman's ability for rapidity of movement may not be impaired?

It greatly increases his functions and responsibilities, for he will be expected to do all that he ever did before and display the shooting power of the infantryman also; and in order that his new quality may be made most profitable he must maintain his ability for rapid movement.

Many of our old cavalrymen believe, with the conviction born of experience, that our present carbine carried on the saddle is the principal cause of the sore backs that prevail to

some extent in every mounted command whenever long marches are made. How will it be then with the new rifle, which weighs about a pound more and is two and a half inches longer? That it has increased the importance of preserving the horse may be denied by some, but that it has increased the difficulty of preserving him will be admitted by all.

It is true that now when his horse is disabled the trooper will become a strong infantry soldier, whereas before he became a weak one; and that on occasions when he cannot be utilized mounted, such as service oversea when no horse-transportation is available, or impracticable theatre of operations, he may be used with increased value in his foot capacity.

Nevertheless, it seems clear that the richest harvest, the most glorious results will be obtained only when his increased fire power is used in combination with rapidity of movement, that is, when he seizes a vital point as a cavalryman and holds it as an infantryman.

The problem, therefore, of how the new rifle shall be carried is an important one, perhaps the most important now before the cavalry arm of our service, and its solution seems to involve either a change in our saddle, or that the trooper shall carry it.

As the McClellan saddle is the best military saddle in the world, it would seem to be the part of wisdom to test the practicability of carrying the rifle on the trooper before venturing on changes in the saddle.

AN INTERESTING CASE TO HORSEMEN.

By Major H. L. RIPLEY, Eighth Cavalry, General Staff.

ON the 15th of February, 1905, I was notified by the commanding officer at Fort Sill, O. T., Lieutenant Colonel H. P. Kingsbury, Eighth Cavalry, that Veterinarian Harry F. Steele, Eighth Cavalry, had reported to him that a horse of Troop C, Eighth Cavalry, ("Coxey") was suffering from farcy, and I was directed to make an examination of him and report at once. I found the horse with his near hind leg considerably swollen, the swelling having taken place within twenty-four hours. The lymphatic glands were hard and cord-like, especially from the hock up. Several ulcers or buds, characteristic of farcy, were distributed along the glands, some of which were discharging a thick yellowish pus. No ulcers could be seen in the nostrils and there was no discharge therefrom. The horse had no fever and there was no swelling or sign of ulcers upon the lips, neck, shoulders or any other part of his body. There was, however, a rash-like eruption, both inside and outside the swollen leg, extending from just below the hock to the fetlock. These swellings differed from the ulcers above the hock, in that they were much smaller, about the size of the half of a small pea, and much more numerous, covering practically the whole leg, and there was no discharge from them. This eruption resembled very much the "adobe itch," which affected our horses while campaigning during the rainy season in the Philippines.*

The horse was in good flesh, had a good appetite, and otherwise appeared to be in a perfectly healthy condition.

*See Surgeon Roberts' reference to this in his report of the post mortem examination, page 284.

He had been received at the post from St. Louis with others in October, 1904, and there had been no case of glanders or farcy at the post within the knowledge of the oldest resident. The case was certainly suspicious, but it was not conclusive to me, notwithstanding the diagnosis of the veterinarian and his belief that the horse should be immediately destroyed. He was at once isolated, however, and all precautions taken against infection of other animals.

I recommended to the commanding officer that the horse be not destroyed, but subjected to further observation. which recommendation was approved. Upon my further recommendation he telegraphed the Military Secretary at Washington for a supply of mallein from the Bureau of Animal Industry, Department of Agriculture, in order to apply that test to the horse. This mallein was promptly sent, and the test applied by Veterinarian Steele. The result was negative. The following is his report of it:

FORT SILL, O. T., March 2, 1905.

The Adjutant, Fort Sill, O. T.:

SIR:—I have the honor to report the following case:

On February 15, 1905, my attention was called to one public horse of Troop C, Eighth Cavalry, "Coxey," bay gelding, received by the troop October 5, 1904. The near hind leg was swollen from the hip to the hoof, the lymphatic glands and vessels forming well defined buds and cords from the inguinal region to the foot. Several buds had burst and were discharging characteristic discharge. There was no ulcer in the nostrils. After careful examination a diagnosis of "farcy" was made, and the commanding officer promptly notified.

At the request of Major Ripley the animal was isolated and after the temperature was taken for three days, was inoculated with one cubic centimetre of "mallein." The test was as follows:

Feb. 21.	5:30 P. M.	F. 100.3	Feb. 23.	5:30 P. M.	F. 101.4
Feb. 22.	7:30 A. M.	101.1	Feb. 24.	7:30 A. M.	101.3
Feb. 22.	7:30 P. M.	101.2	Feb. 24.	5:00 P. M.	100.3
Feb. 23.	7:30 A. M.	101.1			

Inoculated 1 c. c. (Bureau) mallein 5:00 P. M.

Feb. 25.	6:00 A. M.	F. 101.1	Feb. 25.	6:00 P. M.	F. 100.2
Feb. 25.	7:00 A. M.	101.0	Feb. 26.	8:00 A. M.	100,2
Feb. 25.	8:00 A. M.	100.3	Feb. 26.	9:00 A. M.	100.1
Feb. 25.	9:00 A. M.	100.2	Feb. 26.	10:00 A. M.	100.0
Feb. 25.	10:00 A. M.	100.2	Feb. 26.	11:00 A. M.	100.1
Feb. 25.	11:00 A. M.	100.3	Feb. 26.	12:00 NOON.	100.1
Feb. 25.	12:00 NOON.	100.2	Feb. 26.	1:00 P. M.	100.2
Feb. 25.	1:00 P. M.	100.2	Feb. 26.	2:00 P. M.	100.1
Feb. 25.	2:00 P. M.	101.1	Feb. 26.	3:00 P. M.	100.1
Feb. 25.	3:00 P. M.	100.2	Feb. 26.	4:00 P. M.	100.2
Feb. 25.	4:00 P. M.	100.1	Feb. 26.	5:00 P. M.	100.2
Feb. 25.	5:00 P. M.	100.2	Feb. 26.	6:00 P. M.	101.0

It will be seen from this table of temperatures, that the highest temperature before inoculation was on February 23d, 5:30 P. M., when the thermometer registered 101.4, while the highest register after inoculation was 101.1 F. at 6:00 A. M. February 25th, the day following inoculation.

While the figures of the test are negative, it in no way changes the diagnosis made.

Very respectfully,

H. F. STEELE,
Veterinarian Eighth Cavalry.

In the meantime and pending the arrival of the mallein, the post surgeon, First Lieutenant William M. Roberts, Medical Department, who besides being an able and efficient doctor is a most excellent horseman, became interested in the case and offered to make a microscopical examination of the pus from one of the ulcers or buds on the glands. His offer was gladly accepted, and he was encouraged to make the test as exhaustive as his facilities would allow. The result of his tests was negative. The following is his report:

REPORT ON BACTERIOLOGICAL EXAMINATION.

Bay gelding "Coxey," Troop C, Eighth Cavalry; six years; No. 1835; height, 15.1. Faint star, black points; weight about 950 pounds; received at post in apparently good condition October 5, 1904.

Several small abscesses were noticed February 12, 1905, on left hind leg, inner aspect below inguinal region.

February 13th the horse was isolated; abscess formation extended along lymphatic chains from inguinal region downward, with marked lymphadenitis, and lymphangitis, whole

leg œdematous, glands progressively breaking down and forming small tense circular painful abscesses, which when evacuated as aseptically as possible, gave following results:

Contents of abscesses: Thick orange yellow viscid pus, alkaline reaction, small quantities in each cavity, no burrowing tendencies apparent. Abscesses connected by enlarged and indurated lymphatic trunks.

Smear preparations from pus show pus cells, sero fibrinous exudate, and small amounts of connective tissue debris, no organisms. Stain, Loeffler's alkaline, methylene-blue, steaming five minutes.

Negative also by Schutz method.

Culture examination.

Blood serum. A few minute grayish spots tenth day, microscopically composed of small cocci in chain formation.

Bouillon, no apparent results for first seven days. On the eighth, a very faint clouding, a small amount of flocculent precipitate, finally settling to the bottom of tube; no odor.

Precipitate consists of series of small cocci (about five m. in diameter) in chains; no other organisms discovered.

Stained by Loeffler's method; do not discolorize by Gram's method.

Agar-agar negative to fourteenth day.
Glycerine agar-agar negative.
Potato negative.

Gelatin stab culture, faint speck like growth along upper portion of needle track; gelatin not liquified.

The only infection apparent is one of stepto-coccus pyogenes in very small numbers and uncontaminated by other organisms.

The inability to obtain Guinea pigs is unfortunate, as more positive tests could be made if these animals were obtainable.

The mallein test as conducted by Veterinarian H. F. Steele was negative.

WM. M. ROBERTS,
First Lieutenant and Assistant Surgeon, U. S. Army, Surgeon.

A report of the tests made by Veterinarian Steele and Surgeon Roberts was sent to Dr. S. E. Salmons, Chief of the Bureau of Animal Industry, with a request for an opinion upon the data furnished concerning the horse. The following is his reply:

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF ANIMAL INDUSTRY.

WASHINGTON, D. C., March 15, 1905.

Major H. L. Ripley, U. S. A., Fort Sill, Oklahoma.

SIR:—I am in receipt of your letter of the 7th instant, in which you request an opinion upon the data furnished concerning a horse which you suspect of having glanders.

In reply I would say that the lesions you describe on the left hind leg of the animal are strongly suggestive of farcy, but in view of the negative reaction obtained by the mallein test and the failure of your surgeon to obtain the bacillus of glanders by the usual bacteriological methods, it would be necessary to exclude ulcerative lymphangitis and epizoötic lymphangitis (so-called pseudo farcy), both of which diseases present suppurating ulcers not unlike farcy. However, it would be advisable to isolate this animal and treat him as a suspect until you can make a positive diagnosis. If this is impossible, I would suggest that no chances be taken with the horse, but that he be killed and buried as a suspicious case, and the premises, harness, trappings, stable implements, etc., thoroughly disinfected, deeming it inadvisable to expose the other horses of the regiment to the possibility of contracting such a serious disease.

Very respectfully,
D. E. SALMONS,
Chief of Bureau.

The latter part of March, about a month after the first mallein test, Veterinarian Steele was directed to make a second test, using a double dose of mallein. The result of this test was negative.

The following is Veterinarian Steele's report on the second mallein test:

FORT SILL, O. T., April 6, 1905.

The Adjutant, Fort Sill, O. T.

SIR:—I have the honor to report that a second "mallein" test was made on the bay gelding "Coxey," Troop C, Eighth Cavalry, March 31, 1905, using two (2) cubic centimeters Bureau of Animal Industry "mallein," by order of the commanding officer, Major H. L. Ripley, Eighth Cavalry.

The test was as follows:

March 27.	5:00 P. M.	F.	100.1	March 29.	5:00 P. M.	F.	99.3
March 28.	8:00 A. M.		100.1	March 30.	8:00 A. M.		99.4
March 28.	5:00 P. M.		100.1	March 30.	5:00 P. M.		99.4
March 29.	8:00 A. M.		100.1				

March 30th inoculated 2 c. c. (Bureau) mallein 5:00 P. M.

March 31.	6:00 A. M.	F.	100.0	March 31.	6:00 A. M.	F.	100.1
March 31.	7:00 A. M.		100.0	April 1.	7:00 A. M.		101.1
March 31.	8:00 A. M.		100.0	April 1.	8:00 A. M.		101.0
March 31.	9:00 A. M.		100.0	April 1.	9:00 A. M.		98.2
March 31.	10:00 A. M.		100.1	April 1.	10:00 A. M.		99.4
March 31.	11:00 A. M.		100.3	April 1.	11:00 A. M.		99.3
March 31.	12:00 NOON		100.0	April 1.	12:00 NOON		99.1
March 31.	1:00 P. M.		100.2	April 1.	1:00 P. M.		98.3
March 31.	2:00 P. M.		99.3	April 1.	2:00 P. M.		99.4
March 31.	3:00 P. M.		99.3	April 1.	3:00 P. M.		98.4
March 31.	4:00 P. M.		100.0	April 1.	4:00 P. M.		99.3
March 31.	5:00 P. M.		100.0				

Very respectfully,

H. F. STEELE,
Veterinarian Eighth Cavalry.

After the negative reaction of the first mallein test and the failure of the surgeon to obtain any trace of the bacillus of glanders, efforts were made to obtain guinea pigs to inoculate, as much more positive results were to be expected if these animals could be used. Efforts, however, were fruitless in Oklahoma and Texas, and it was not until May 15th that they were finally obtained through the medical department from St. Louis, Missouri.

Fresh pus was secured and the guinea pig inoculated May 18th. The result was still negative. The following is Surgeon Roberts' report, made June 12th, on the guinea pig test:

OFFICE OF THE SURGEON,
FORT SILL, O. T., June 12, 1905.

Additional report on Bacteriological examination of bay gelding "Coxey," Troop C, Eighth Cavalry No. 1835:

Guinea pig inoculated May 18, 1905, with pus from abscess, inner aspect, left hind leg above hock. Abscess opened and pus obtained as aseptically as possible, to prevent contamination with organisms of skin. The matter so obtained was inserted subcutaneously in sacral region of male guinea pig, and the cut through which this matter was inserted was closed by sutures and sealed with collodion. About one (1) c. c. of the pus was used, the results entirely negative. The guinea pig is now alive and well and free from all symptoms, scrotal or otherwise.

WM. M. ROBERTS,
First Lieut. and Asst. Surgeon U. S Army, Surgeon.

I have since been informed by Surgeon Roberts that up to September 15th the guinea pig was perfectly well and hearty, and had been returned to the pen with the others.

During all this time the horse had remained in practically the same excellent physical condition. The swelling on the leg had gone down some. The ulcers had not increased in number appreciably, and the eruption below the hock remained about the same.

No other part of the body was effected, and the nostrils were perfectly clean. The horse was a difficult one to handle or treat. He was vicious and ugly in disposition and had to be thrown for satisfactory examination or treatment. Had he been gentle and easy to handle, further observation and treatment would have been given him. The garrison was under orders to leave for the Philippine Islands June 17th, and it was not deemed advisable or proper to leave even a suspicious case to a new command. Being now in command, I therefore directed that the horse be shot, not because he had the farcy, but because he was a suspicious case, and that a post mortem examination follow. This examination was made by Surgeon Roberts and Veterinarian Steele, and their reports follow:

FORT SILL, O. T., June 14, 1905.

Post mortem examination of bay gelding "Coxey," No. 1835, killed by order of the post commander this date; age about seven (7) years; height, 15.1; marks, faint star, black points.

General nutrition, excellent; horse is well nourished and in good spirits.

General condition of the skin normal, except in the left hind leg.

Elasticity, normal; free from discoloration or œdema.

Post mortem rigidity sets in early, beginning in maxillary muscles, then muscles of back and hind quarters.

Mucous membrane of the mouth and nasal passages normal. Nasal mucous membrane possibly somewhat grayer and paler than usual, especially about fifteen c. m. posterior to nostril, presenting a somewhat anæmic appearance, but entirely free from ulceration or other abnormalities.

Examination of aural cavities, negative.

Cervical, submaxillary, and axillary lymphatics, normal.

Right inguinal lymphatics, normal.

Left inguinal lymphatics are enlarged and indurated, without tendency toward periadenitis, the skin being freely movable over the enlargements. Lymphatic trunks extending down left leg show marked lymphangitis with occasional suppurating nodes, communicating in the recent state externally through skin by fistulous openings, which show tendency to heal promptly, with formation of flat hairless cicatrices. Content of nodosities—a thick, viscid, caseous pus containing the streptococcus pyogenes in small numbers uncontaminated by other organisms. (See bacteriological report.)

Infection shows signs, clinically, of having extended upward from foot of pastern.

On the outer aspect of the left hind leg are numerous small abscess formations from the size of a grain of corn to a small chestnut, situated in the skin, and apparently free from connection with the lymphatic channels.

The pus is free from all organisms except the streptococcus pyogenes in small numbers.

Early in the course of the disease there was considerable œdema of this leg, but subsequently this œdema subsided; and now the leg is dotted over with numerous small circumscribed swellings free from general enlargement.

Anus, sheath, and penus, normal, except for two lymphatic nodules on left side of sheath, which when opened are found to consist of a caseous pus similar to the nodules on the leg.

The subcutaneous fat is normal.

Blood, normal.

Muscles and fascia, normal.

Pleura, normal.

Heart, normal.

Peri cardium, normal.

Lung tissue, normal; free from any appearance of nodosoties or circumscribed degeneration processes.

Internal tract, normal; small amounts of subperitoneal fat, normal in character.

Liver considerably smaller than normal, but normal in color and consistency. Free from degeneration processes.

Internal lymphatics, uninvolved.

Brain not involved, but clinically, no nervous symptoms were observed, and the nervous system generally is apparently normal.

In general, the only pathogenic process observed was one of infection with the streptococcus pyogenes taking the form of a chronic lyphangitis and lymphadenitis.

WM. M. ROBERTS,
First Lieutenent and Assistant Surgeon U. S. Army,
Surgeon.

FORT SILL, O. T., June 14, 1905.

The Adjutant, Fort Sill, O. T.

SIR:—I have the honor to report that the bay gelding of Troop C, Eighth Cavalry, which has been isolated since February, suffering with farcy, was destroyed this day by order of the commanding officer.

The post mortem examination which followed, did not show any of the symptoms or lesions on the nasal mucous membrane, the lungs or spleen, except that the nasal membrane had a decided leadish color and the lungs mottled. The examination of the near hind leg showed several enlarged glands, some of which had broken down and were discharging.

The glands of the inguinal region were much enlarged and showed more or less broken down material when exposed.

Respectfully,
H. F. STEELE,
Veterinarian Eighth Cavalry.

These reports show that no nodules were found in the liver, spleen, kidneys or lungs, and yet the best authorities state that an animal which has farcy, while the outward symptoms may under certain conditions be so ameliorated that he would pass any expert as sound, invariably has nodules in the lungs, which would of course be found in a post mortem examination.

The report of Surgeon Roberts is particularly exhaustive and satisfactory. It is to be noted that to the last the reports made by Veterinarian Steele refer to the horse as suffering from farcy.

This was his diagnosis when he first saw the case, and he adhered to it manfully, or unmanfully, to the end.

The evidence as shown by the above tests and examinations seems to preclude conclusively the presence of farcy in this horse. It is believed that the original diagnosis was a mistake, and it would be interesting to hear the views of some of our first-class veterinarians on the case.

THE MINDANAO MORO.

By Captain C. C. SMITH, Fourteenth U. S. Cavalry.

A SERVICE of two years among the Moros of Mindanao, during which it was our good fortune to get about considerably in their territory, and a pleasant personal and profitable acquaintance with Dr. Najeeb M. Saleeby, a learned Syrian, probably the best living authority on the Moro, has given us temerity enough to believe that we might say something of interest concerning a strange and fanatical people.

The Moro, from our standpoint, has few, if any, traits that appeal to or excite admiration. He is a polygamist, has no moral sense, is tyrannical, vain, fond of show, and brutal in his treatment of those who acknowledge him as a superior. He is cool and treacherous, and for his religion commits the worst of crimes—murder—and with no compunction. The following from the *Army and Navy Journal* of March 17, 1906, shows how Major R. L. Bullard, Twenty-eighth Infantry, regards him.

"The only question with the average Moro," Major Bullard is quoted as saying, "is when he can kill a Christian. It is never a question of whether he will do so or not. The Moro priests teach the murder of Christians as a requirement of their religion. The Moro is a born fanatic. He cares absolutely nothing for his own life if by risking it he can carry out the precepts of his religion. The Moros will hide their hate with cunning subtlety until an opportunity comes for them to secure revenge. It is for this reason that the American lives in constant fear of his life. No American who is wise ever leaves his tent without being securely armed. I once took a detachment in pursuit of a datto who

had slashed a soldier with a two-edged sword because our boat was skimming along near the shore of Lake Lanao. Suddenly I heard a death groan and a fearful struggle behind me. I turned to find in my boat a hostile Moro, kris in hand and the awful fire of murder blazing in his eye. One stroke of his deadly knife had half severed the head from the body of my soldier-steersman, and the flashing blade was raining blows into the bottom of the boat at the prostrate form and flying legs of the oarsman, who had occupied the place between me and the steersman. The latter, his head falling forward on his breast, sat bolt upright in his place, dying. Too fast to tell I poured four shots into the mad Moro, but to my consternation they seemed wholly without effect, and in desperation I spared the last two shots, springing forward in the hope of shoving the revolver's muzzle against him, and so blow out his brains or his heart. The Moro stooped to clear a bamboo bow that looped the narrow boat over the head of the fallen oarsman. I thrust the muzzle of my revolver against the top of his close-cropped head and fired. Then at last he felt the bullet and sank forward upon his own weapon and the legs of the soldier whose head was against my knees."

Major Bullard's experiences vividly disclose the character and conditions which confront the American forces in the Moro province. To temporize with them would be an act of madness that would lead to inevitable disaster. Any halting, half-hearted policy on the part of the military authorities would be construed by the Moros as a sign of American cowardice, and that would be recognized as the signal for massacre. The whole course of the army in the Moro country has been patient and conciliatory, but at the same time firm and vigilant, early experience having shown that the natives are naturally treacherous, cruel and hostile to all Christians.

Let us state that Major Bullard, whom we have the honor and pleasure to know personally, has had much experience with Moros, and knows them perfectly. He, along with Dr. Saleeby, may be considered an authority.

Dr. Saleeby, whom they greatly respect for his strong

personality, on account of expertness in their language, and his being an Arabic scholar, has recently written for the Ethnological Survey of the Philippine Islands a treatise on the history, law, and religion of the Moros. The Moro panditas (priests) preserve their religion by means of the Arabic

MORO PANDITA (PRIEST) WITH HIS SLAVE BOY, FROM LAKE LANAO, MINDANAO.

which is the only script they know, and the Doctor has in his work translated the records of the panditas, and other interesting data.

The history of a people begins when mythology merges into something tangible. The mythology of the Moro ends and history starts with the advent in Mindanao of the Mohammedan Kabungsuwan in about 1475. Previous to this, Moros (called so by the Spaniards on account of their brown

color) and the hill and mountain tribes of Mindanao were all one and the same people. It is not to be understood that all Moros are descended from the tribes just mentioned; as the Samals in the vicinity of Zamboanga, and the Sulu Moros, were originally from the Malay Peninsula. It is more than probable that most Philippine Islanders first came from the south of Asia, but the Samals and Sulus were the last comers,

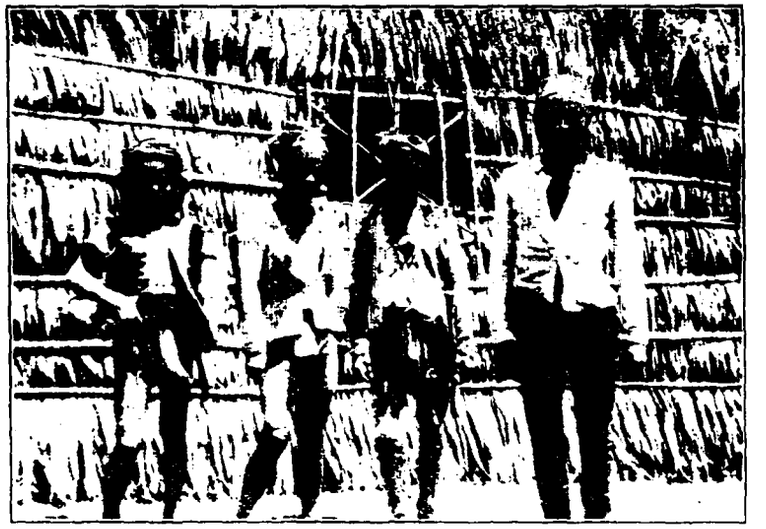
SAMAL MORO OF ZAMBOANGA, MINDANAO, LANDING HUGE SEA TURTLE.

and very likely appeared in the order named, and already converted to the Mohammedan faith.

Mindanao and Magindanao is the same, and was the old name of Cotabato, and the country in its vicinity, meaning "the inundated land," and most descriptive of this region is the title. Before the days of Kabungsuwan the people of Magindanao were pagans, as are the Subanos, Tirurays and Bilanes in the highlands about Cotabato to-day; but as a religion will change people, so the Moslem faith has made the Moro, originally a heathen of benevolent disposition, fierce, arrogant and haughty.

Tradition has it, that before the doctrine of Islam was introduced, the people of Magindanao were numerous and prosperous, and had many villages and settlements. This is probably so, for the mountain people, or descendants of the forefathers of the Moros, have that in their character which should, if developed, guarantee prosperous communities.

The spread of the faith of Mecca, with its precepts, has had the effect of disintegrating the old-time settlements and



SUBANOS FROM WESTERN MINDANAO.

These are mountain people, as the Moros were previous to their conversion to Mohammedanism.

villages of the mountaineers, who now seek safety in hidden valleys, or on high points from which they can watch the approach of the fierce Mohammedan slave hunter, and make such preparations or dispositions as they deem necessary, and as they abjectly fear the Moro, flight into the jungle is the rule.

As is common with a people who have no chronology, and few recorded narratives, the Moro has permitted fiction and fact, or more properly speaking, mythology and history

to become somewhat mixed, but as both may be of interest, we will slight neither, commencing, naturally, with the former, and take from Dr. Saleeby's book the following:

"Long ago, before the days of Kabungsuwan, Magindanao was covered by water, and the sea extended all over the lowlands, and nothing could be seen but mountains. The people lived on the highlands on both sides. They were numerous and prosperous, and many villages and settlements arose everywhere. But their prosperity and peace did not last very long. There appeared in the land pernicious monsters which devoured every human being they could reach. One of these terrible animals was called Kurīta. It had many limbs and lived partly on land and partly in the sea. It haunted Mount Kabalalan and extirpated all animal life it its vicinity. The second was called Tarabūsaw. This ugly creature had the form of a man, but was very much larger. It was extremely voracious, and spread terror far and wide. It haunted Mount Matutun and its neighborhood.

"The third was a monstrous bird called Pah. This bird was so large when on the wing that it covered the sun and produced darkness underneath. Its eggs was as large as a house. It haunted Mount Bita and the eastern Ranao region. It devoured the people and devastated the land. The people were awe-struck, and those who escaped hid themselves in the caves of the mountains.

"The fourth was a dreadful bird also, which had seven heads. It lived in Mount Gurayn and the adjacent country.

"The havoc was complete and the ruin of the land was awful. The sad news found its way to strange and far lands, and all nations felt sorry for the fate that befell Mindanao.

"When the news reached Raja Indarapatra, the king of Mantapuli, it grieved him very much and filled his heart with sympathy. Raja Indarapatra called his brother, Raja Sulayman (Solomon) and asked him to come to Mindanao to save the land from those destructive animals. Raja Sulayman was moved with sorrow, mingled with enthusiasm and zeal, and consented to come. Raja Indarapatra handed to his brother his ring and his kris, Juru Pakal, and wished him safety and success. But before they parted Raja Indarapatra took a sapling and planted it in the ground in front of his window. This he thought was a sure sign by

which he could tell what would happen to Sulayman after his departure. He said to Sulayman, if this tree lives you will live also; and if this tree dies, you will die too.

"Raja Sulayman left Mantapuli and came over to Mindanao in the air. He neither walked nor used a boat. The first place he reached was Kabalalan. There he stood on the summit of the mountain and viewed the land and the villages, but he could not see a single human being anywhere. The sight was woeful, and Raja Sulayman exclaimed, 'Alas, how pitiful and dreadful is this devastation!' As Sulayman uttered these words the whole mountain moved and shook, and suddenly there came out of the ground a dreadful animal, which attacked Sulayman and fixed its claws in his flesh. The minute Sulayman saw the Kurīta he knew that it was the evil scourge of the land, and he immediately drew his sword and cut the Kurīta to pieces.

"From there Sulayman went to Matutun. There he saw greater devastation and more awful condition of affairs. As he stood on the mountain he heard a noise in the forest and saw a movement in the trees. Soon there appeared Tarabūsaw, which drew near and gave a loud yell. It cautioned Sulayman and threatened to devour him. Sulayman in his turn threatened to kill Tarabūsaw. The animal said to Sulayman, 'If you kill me, I shall die the death of a martyr,' and as it said these words it broke large branches from the trees and assailed Sulayman. The struggle lasted a long while, until at last the animal was exhausted and fell to the ground; thereupon Sulayman struck it with his sword and killed it. As the animal was dying it looked up to Sulayman and congratulated him on his success. Sulayman answered and said, 'Your previous deeds brought this death on you.'

"The next place Sulayman went to was Mount Bita. Here the devastation was worse still. Sulayman passed by many houses, but they were all vacant and not a soul lived there. 'Alas, what havoc and what misfortune has befallen this country!' he exclaimed, as he went on. But suddenly there came a darkness upon the land, and Sulayman wondered what it could mean. He looked up to the sky and beheld a wonderful and huge bird descending from the sky upon him. He at once recognized the bird and understood its purpose, and as quick as he could draw his sword, he struck the bird and cut off its wing. The bird fell dead, but its wing fell on Sulayman and killed him. At this same time Raja Indarapatra was sitting in his window, and he

looked and saw the little tree wither and dry up. 'Alas!' he said, 'Raja Sulayman is dead;' and he wept.

"Sad at heart, but full of determination and desire for revenge, he got up, put on his sword and belt, and came over to Mindanao to search for his brother. He traveled in the air with wonderful speed, and came to Kabalalan first. There he looked around and saw the bones of the Kurīta, and concluded that his brother had been there and had gone. At Matutun he saw the bones of Tarabūsaw, but Sulayman was not there. So he passed on to Mount Bita and resumed the search. There he saw the dead bird lying on the ground, and as he lifted the severed wing, he saw the bones of Sulayman, and recognized them by means of the sword that was lying by their side. As he looked at the sword and at the bones he was overwhelmed with grief, and wept with tears. Raising up his head, he turned around and beheld a small jar of water near him. He knew that the jar was sent down from Heaven, so he took it and poured its water on the bones of his brother, and his brother came to life again. Sulayman stood up, greeted his brother, and talked with him. Raja Indarapatra had thought that Sulayman was dead, but Sulayman assured him that he had not been dead, but that he had been asleep. Raja Indarapatra rejoiced, and life and happiness filled his heart.

"Raja Sulayman returned after that to Mantapuli, but Raja Indarapatra continued his march to Mount Gurayn. There he met the dreadful bird that had seven heads, and killed it with his sword, Juru Pakal.

"Having destroyed all these noxious animals, and having restored peace and safety to the land, Raja Indarapatra set himself searching for the people that might have escaped destruction. He was of the opinion that some people must have contrived to hide in the earth, and that they might be alive yet. One day during his search he saw a beautiful woman at some distance, and as he hastened to meet her she disappeared quickly through a hole in the ground where she was standing. Having become tired and pressed with hunger, he sat down on a rock to rest. Looking around for food, he saw a pot full of uncooked rice and a big fire on the ground in front of it. Coming to the fire he placed it between his legs and put the pot over his knees to cook the rice. While so occupied, he heard a person laugh and exclaim, 'Oh, what a powerful person this man is!' He turned around and, lo, there was an old woman near by looking at him and wondering how he could cook rice on a fire between

his legs. The woman drew nearer and conversed with Raja Indarapatra, who ate his rice and stood talking to her. He inquired of her about her escape and about the inhabitants of the land. She answered that most of them had been killed and devoured by the pernicious animals, but that a few were still alive. She and her old husband, she said, hid in a hollow tree and could not come out from their hiding place until Raja Sulayman killed the awful bird. Pah. The rest of the peopie and the datu, she continued, hid in a cave in the ground and did not dare to come out again. He urged her to lead him to the cave and show him the people, and she did so. The cave was very large, and on one side of it were the apartments of the Datu and his family. He was ushered into the presence of the Datu, and was quickly surrounded by all the people who were in the cave. He related to them his purpose and his mission and what he had accomplished, and asked them to come out and reinhabit the land. There he saw again the beautiful girl whom he had observed at the opening of the cave. She was the daughter of the Datu, and the Datu gave her to him in marriage in appreciation of the good he had done for them and the salvation he had brought to the land The people came out of the cave and returned to their homes, where they lived in peace and prosperity again. At this time the sea had withdrawn, and the lowland had appeared.

"One day as Raja Indarapatra was considering his return home he remembered Sulayman's ring and went out to search for it. During the search he found a net near the water, and stopped to fish to replenish his provisions for the continuation of the march. The net caught a quantity of buganga fish, some of which he ate. Inside one of the fish he found his ring. This cheered Raja Indarapatra's heart and completed his joy. Later he bade his father-in-law and his wife good-bye and returned to Mantapuli pleased and happy.

"Raja Indarapatra's wife was pregnant at the time of their parting, and a few months later gave birth to twins, a boy and a girl. The boy's name was Rinamuntaw and the girl's was Rinayung. These two persons are supposed to be the ancestors of some of the Ranao tribes or Datus.

This narration was secured from Datu Kali Adam, who learned it from the late Maharaja Layla of Magindanao, and from Alad, one of the oldest and most intelligent Moros living. Alad says that Mantapuli was a very great city far in the land of the sunset, where, exactly, he does not know, but he is sure it was beyond the sea. Mantapuli was so large,

he said, and its people were so numerous, that it blurred the eyes to look at them move; they crushed the bamboo very fine if it was laid in the street one day.

"Raja Indarapatra is the mythological hero of Magindanao and Mantapuli is his city. These names are very frequently mentioned in Moro stories, and various miracles are ascribed to them.

"Kabalalan, Matutun, Bita, and Gurayn are the most prominent and picturesque peaks of Mindanao and Ranao with which the Moros are familiar. The whole narration is native and genuine, and is typical of the Magindanao style and superstitions. Some Arabic names and Mohammedan expressions have crept into the story, but they are really foreign and scarcely affect the color of the story.

"The animal Kurīta seems to bear some resemblance to the big crocodiles that abound in the Rio Grande River. Tarabūsaw may signify a large variety of ape. A heinous bird is still worshiped and is greatly feared by the Tirurays and Manobos who live in the mountains south of Cotabato. The hateful Balbal, in which all Moros believe, is described as a night bird, and its call is supposed to be familiar and distinctly audible every night.

"What relation the names of Rinamuntaw and Rinayung bear to the ancestors of the Ranao Moros it will be very interesting to find out in the future."

A comparison of this mythological tale with the history of the introduction of Islamism will show that mythology and authentic happenings in this case are similar, and warrants us in saying that Moro history is interwoven with their mythology. For instance, the coming of Sulayman from Mantapuli in the land of the west to destroy the terrible pests Kurīta, Tarabūsaw and Pah, may be taken as the allegorical representation of Kabungsuwan coming to Mindanao to free it from paganism.

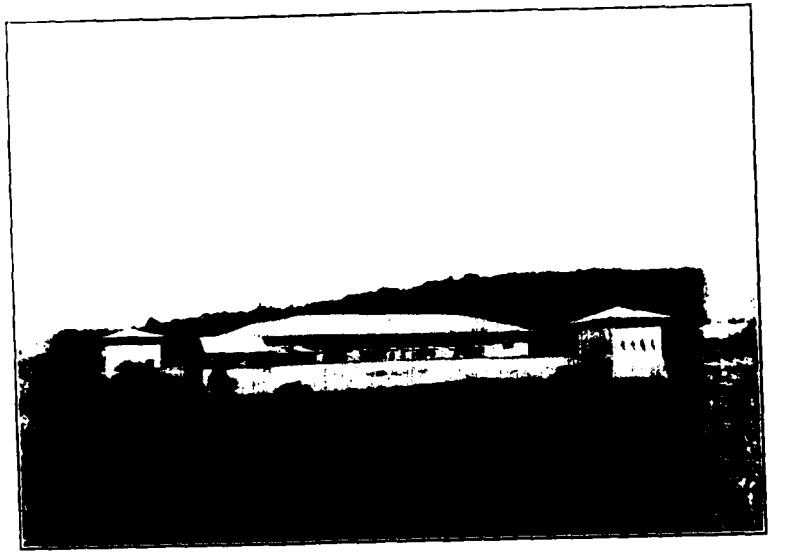
It may be that the perusal of the foregoing myth has excited the curiosity of the reader as to the location of the various places named in the story. If this is so, the map herewith marks the position of said points; and it is not out of place for a study of the Moro country.

The Pulangi is the Moro name for the river known to the Americans, Spaniards and Filipinos in the islands as the Rio Grande de Magindanao.

We will now pass to the early history of the Moros, and from this, work down to the present day.

Before Magellan discovered the Philippines to the nations of Europe, the religion of the Prophet had been established in Mindanao, and Mohammed Kabungsuwan, who introduced it from Jahore, had become the ruler of those whom he had converted. He came not as conqueror, simply as a missionary.

This zealot found where he landed, at the mouth of the Rio Grande de Magindanao, just such people as are the



A Spanish Built Fort in the Moro Country.

present mountaineers of Mindanao—benevolent and kindly disposed toward strangers. His religion appealed to them, and we see in the Moro of to-day the great change that the precepts of Mohammed have worked in a people whose ancesters were rude pagans or heathens.

Kabungsuwan was the son of a Malay mother and an Arabian father, most of the people of Jahore being pure Malays. They had been converted to the religion of Mohammed some centuries before by Arabians who wandered

through India and the Malay Peninsula, spreading their faith. Later, some of these men came to Mindanao and Jolo, but Kabungsuwan was the pioneer Mohammedan missionary. Following him came Arab priests, Chereefs, etc., and some of these are now to be seen in the Moro settlements.

It is not strange that Kabungsuwan made converts quickly when we take into consideration the fact that he, and the few followers he brought with him from Jahore were of the same race as the people they came to work among. That is, Kabungsuwan's mother was a Malay, and many of his followers were full-blooded Malays.

Kabungsuwan married and settled in Mindanao, and one of his daughters, Putri Mamur, married Rajah Pulwa, the Sultan of Bwyan. From this union are descended the Moros of standing in the Cotabato Valley known to the Americans, viz: Datu Utu of Sapacan, Datu Ali of Tinunkup, Datu Mastura of Cotabato, and Rajah Putri (The Princesa) the widow of Datu Utu, who lives near Cotabato. As Kabungsuwan claimed to be a Chereef, or direct descendant of the Prophet, it is not to be wondered at that the Moros of the Cotabato Valley look up to and venerate his descendants just named.

The genealogy of these descendants has been handed down, in Arabic, from generation to generation and kept by the Panditas (priests) as well as by the Datus themselves. Datu Mastura and Chereef Ali (pandita) of Sapacan have both kept a genealogy of the royal line in the Cotabato Valley. The latter was reported by the Moros killed in a skirmish with the Provisional Troop, Fourteenth Cavalry, which the writer had the honor to command on December 16, 1904, at Buduc, on the Allah River in Mindanao. The following is a prayer taken from his turban on that occasion:

"We begin our task, and I know that no bullet can harm me; God and Mohammed will protect me. I believe in the great teachers, Abubeker, Othman and Ali. God deliver me from all evil. I praise Mohammed on account of his works, and ask his protection."

The above invocation was in Arabic, and translated for the writer by one of the secretaries to Governor Van Horn of the District of Cotabato.

The fact that the most prominent Moros of the Cotabato Valley, Sibuguey, and the Ranao region, are descended from Kabungsuwan, makes it clear why the Datus are reverenced by the common Moros, who when they approach their superiors, do so most humbly on hands and knees.

The Moro believes that the acme of immortal bliss is attained by having this life ended on the field of battle, or as

MORO CHURCH NEAR CAMP VICARS, MINDANAO.

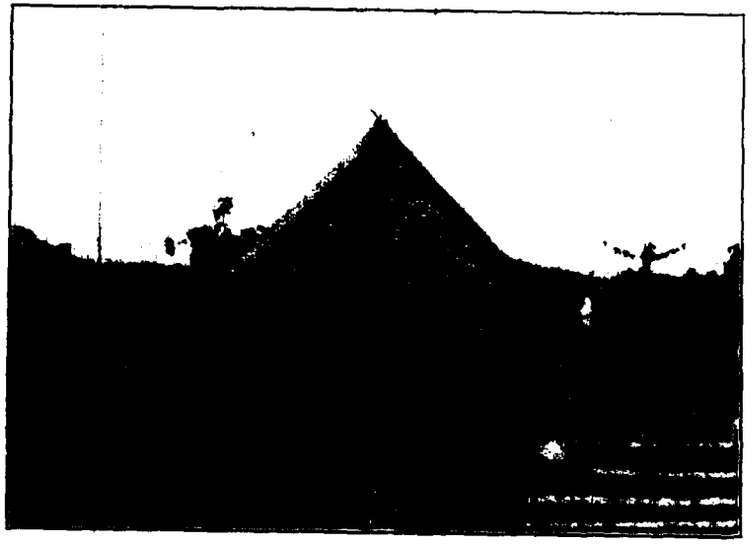
a Juramentado—that death in either of these two ways entitles him to a place in the highest heaven, where every man is a prince, served by slaves, and attended by beautiful houris.

A Juramentado is one who runs amuck (the word is Spanish, and comes from jurar, to take an oath). This the Moro does. He takes an oath before a pandita to kill as many Christians as he can. He runs with his kris like a

mad dog, bent on doing harm to man, woman, or child in his terrible frenzy, until shot down by some soldier.

The following is General Corbin's estimate of the Moro:

"The Moros are religious fanatics, and are not amenable to the influences of other peoples. They owe no allegiance except to their Mohammedan faith, and are liable to cause trouble at any time. Their acts have no more relation to the conduct of the Filipinos than the Apache outbreaks in former days in Arizona with the situation in other States and Territories.



MORO HOUSE SUCH AS SEEN IN THE RIO GRANDE VALLEY.

"No man can tell what the Moros are going to do. They are just as likely to fight among themselves as to attack others. When an individual Moro feels what he calls an inspiration he runs amuck and kills all he can. This condition has always existed and, presumably, always will, until the race becomes extinct. We are now educating many of their children, and from this enlightened generation there may soon spring a new and better type of Moro.

"Probably there are about 5,000 Moros on the island of Jolo. The number on Mindanao has been estimated as high as 40,000, but it is impossible to obtain a census, and this figure may be much exaggerated."

The Moros of Mindanao have never been united as a single power, but have always formed several distinct Sultanates. The most important are those of Magindanao, capital at Cotabato, and Bwyan, capital at Dulauan (Piang's place), both in the Rio Grande Valley; and Madaya, Ramain, Taracca and Bacolod, around Lake Lanao, with the kingdom of Illana on the east shore of Illana Bay, and that of Sibuguey bordering Sibuguey Bay. The Samals may also be considered, their country being around Zamboanga.

The Spaniards never more than nominally conquered Mindanao, being content to simply fortify and hold a few settlements, mainly on the coast, viz: Iligan, Zamboanga, Margos-sa-tubig, Malabang, Parang and Cotabato. Their most remote ontposts in the Moro country were Reina Regente and Pikit, both in the Rio Grande Valley, the former about forty and the latter seventy miles from its mouth.

As the Spaniards never went much into the interior of Mindanao, it was left for the Americans to explore the country more. Captain R. O. VanHorn, Seventeenth Infantry, went from Cotabato to Cagayan on the north coast, following the Rio Grande to the watershed which divides it from the Rio de Cagayan, which stream he followed down to its mouth. Other explorations and expeditions have been made into the country, the writer being in command of a detachment which crossed the island from Misamis on Panquil Bay, to Margos-sa tubig on Dumanquilis Bay, in June and July, 1904.

In 1597 the Spaniards under Marquis Rodriguez first invaded Mindanao, and were driven out by the Moro Datus Silungan and Bwisan. Rodriguez, it is supposed, now sailed around to the north coast of Mindanao, anchored off where Iligan now stands, and sent an expedition to Lake Lanao. The Moro tradition of this invasion states that there were 400 Spaniards in armor and casques in this party, and not one of them got back to the ships. That something of this sort happened on the shores of Lake Lanao can hardly be doubted, for now and then an old Spanish helmet or coat of mail is brought to one of the market places frequented by Americans and offered for sale.

In 1636 General Corcuera made a successful invasion of the Magindanao country. At this time there was a Sultan, very famous among the Moros for his prowess, named Dipatwan Qudrat, called by the Spaniards "Corralat." This Qudrat was the son of Bwisan who drove Rodriguez from the country, and he fought the Spaniards bitterly, and held them off for many years, his pirates terrorizing Luzon and the Visayas, and it was not till 1636 that he was checked and

MORO WOMAN AND CHILDREN.
This is one of the wives of Datu Grande, who lives near the south shore of Lake Lanao, Mindanao.

forced to acknowledge the sovereignty of Spain. Corcuera took from Qudrat eight large cannons, twenty-seven lantaka and one hundred muskets.

In 1649 this great man, for he was the greatest Sultan Magindanao ever had, again defied the Spaniards and became independent. The Spaniards now held Mindanao at intermittent intervals until it was ceded to the United States. In 1886 they made a campaign against Datu Utu of Sapacan, who resisted vigorously, but he was finally brought to terms.

The Spaniards made some campaigns against the Ranao Moros, and these expeditions generally started from Iligan.

The writer was stationed in the town of Iligan for five months during 1903 and 1904, and while there gained access, through his acquaintance with the Catholic priest of the town, Father Antonio Bartolome, to some of the church records relating to Spanish campaigns against the Moros of that region. Some of these were translated, and as they may be of interest, are presented herewith:

"On the 14th of November, 1886, an expedition was organized in this town to go into the interior of the island with the object of procuring data as to the geographical position of the lake called Lanao, which, according to rumor, is the center of the Moro county. This expedition was also to find the most practical road to said lake.

"In order that the expedition might be a success, and not too costly, the Governor of the District, General Emilio Terrero ordered that the road be prepared by degrees, and had a meeting with the most influential Datus.

"On the above date the expedition set forth under the command of the Governor, and there was with it the Commission sent by the Governor General, which was composed of Major Don Miguel G. Maldonado, the second secretary of the Governor General, the official interpreter of Moro dialects, Don Pedro Ortuoste, the third secretary of the Governor General as photographer, and Don Alfonso Ferrinat; also thirty or forty soldiers under Lieutenant Don Andres Aquilocho, and sixty men from Iligan under one Ramirez.

At the village of Bogsagat the expedition was detained two days by the opposition of one or two Datus who wished to collect a toll. Up to this time nothing of interest had happened, but at all stages of progress the Moros seemed excited and apparently showed disapproval of the Spaniards being in their country.

"To one of the Datus a gold headed cane was presented, but he took off the head for buttons and threw the stick away. In this manner these savages show their esteem for presents given by the authorities.

"The only satisfactory result of the expedition is the map of the lake, and the road to it, made by Don Miguel G. Maldonado, and this map ought to adorn the office of the Governor General and the Commander of the District."

"Father JUAN RUIZ.

"ILIGAN, December 30, 1886."

"On the 1st of December, 1890, at 8:00 o'clock in the morning. Moros gathered by Amay Pagpag, entered the barrio of Manticao and killed twenty-five Christians, capturing many women and children who were taken in church, it being Sunday and the hour of worship. They took 130 captives all told.

"The Moros were well armed with rifles, acquired no doubt from smugglers on the south coast of this island, and this is the reason why they consider themselves so confident and strong in attacking almost defenseless towns.

"Their first intention was to attack Iligan, but this town being more or less prepared for the attack, it was passed by. In going by Iligan they made it appear as though they were on a foray against the Montescos, a tribe of the interior.

"After passing Iligan, their guide, the Sultan of Parau, who had always lived near the coast, directed them against Manticao, knowing that the people living there were practically unarmed.

"Father JUAN RUIZ.

"ILIGAN, January 1, 1890."

* * *

"On the 15th August, 1891, arrived at this port the ship of the Royal Navy, *Marquis del Duero* convoying the *San Quintin, Cebu* and *Manila*, carrying aboard a force to operate at Lanao.

"At 7 in the morning they disembarked on the far side of the Linamon River. The force that landed was two columns, the first composed of 500 native troops under the immediate command of a captain of infantry, Don Guillermo Pintos, and the second of three hundred Spaniards, commanded by Señor Don Luis Huertas, as a reserve for the first.

"They immediately commenced to experience the inclemency of the weather, and after marching four days arrived at the pueblo (town) of Marahui. Both columns met many parties of Moros of the rancherias (settlements) of Marantao, Maol and Canayan, who did not offer a very strong resistance, as only eight dead were counted, but it is supposed that many more were wounded. At Marahui the opposition was no greater, the people living on the edge of the lake having retired into the interior. The principal cotta (fort) made a good resistance until the assault; they lost thirty-five killed, some wounded, much material captured and numbers of houses burned.

"On our side nineteen were wounded, among them Don Miguel Ruano, lieutenant of artillery. We also had five killed, including a Spanish artilleryman.

"As these two columns left the coast hurriedly with only four days rations, they were quickly followed up by another detachment of four hundred infantry under Lieutenant Colonel Don Alfonso Cortijo, which conducted a convoy with rations for the whole force which was to make expeditions from the rancheria of Balut as a base.

"These two sections of the force, however, did not come together as was intended owing to the fact that a guide, furnished by the Sultan of Balut, was instructed by that treacherous chief to keep them apart. For this piece of treachery the officer commanding the convoy ordered that Datu Alack, the guide, should be find fifty pesos ($25.00), but the colonel commanding, through timidity, not only revoked the order giving fifty pesos, but paid Alack more money, with the understanding that the Moros were not to molest any of the people of this locality.

"After the above expeditions, one was sent against the pueblo of Munay under command of Lieutenant Colonel Cortijo, who had with him a battery of artillery, commanded by Captain Don Adolfo Barzanotlano, also the militia of this town, and of Misamis.

"This force was sent to take a cotta, poorly defended, and to raze the pueblo. The command on the way built a fort at Liangan, and left there a garrison of sixty infantry and ten artillery. It then proceeded to Momungan, where another small fort was put up and called Weyler. Here I celebrated a campaign mass, blessed the fort, and hoisted the flag of Castilla, which was to remain under the charge of a special guard of our troops.

"Although many flags fly from small forts in this region, the Moros are still at large and very rebellious, and make it dangerous for one to be in this section.

"The results of all these expeditions have actually been nothing which an observer can see. The Moros are still in rebellion and have not been made to feel the sting of a real war.

"As one who has some little knowledge of these people, it is my opinion that they will continue to be aggressive and molest us in numbers more or less large.

"Father JUAN RUIZ.

"ILIGAN, October 13, 1891."

"On the 15th December, 1892, several rancherias of the lake region, among them those of Uato and Rororajos, making in all a large party of Moros, sailed forth to attack the fort at Momungan.

"The soldiers learning of the approach of the Moros left the fort to meet them under Major Don Nicolas Soro. A fight occurred, in which a servant of the Major was killed, and several of our soldiers were wounded, the Moros leaving seven dead on the field. From subsequent reports it was learned that eighty-two Moros in all were killed.

"Major Soro took the seven dead Moros to Momungan and buried them in a plot which he laid out as a Moro cemetery. He wrote to the relatives of the dead so that they might, if they desired, come and pray at the graves.

Father CIPRIANO LIZARRAGA.

"ILIGAN, December 27, 1892."

* * *

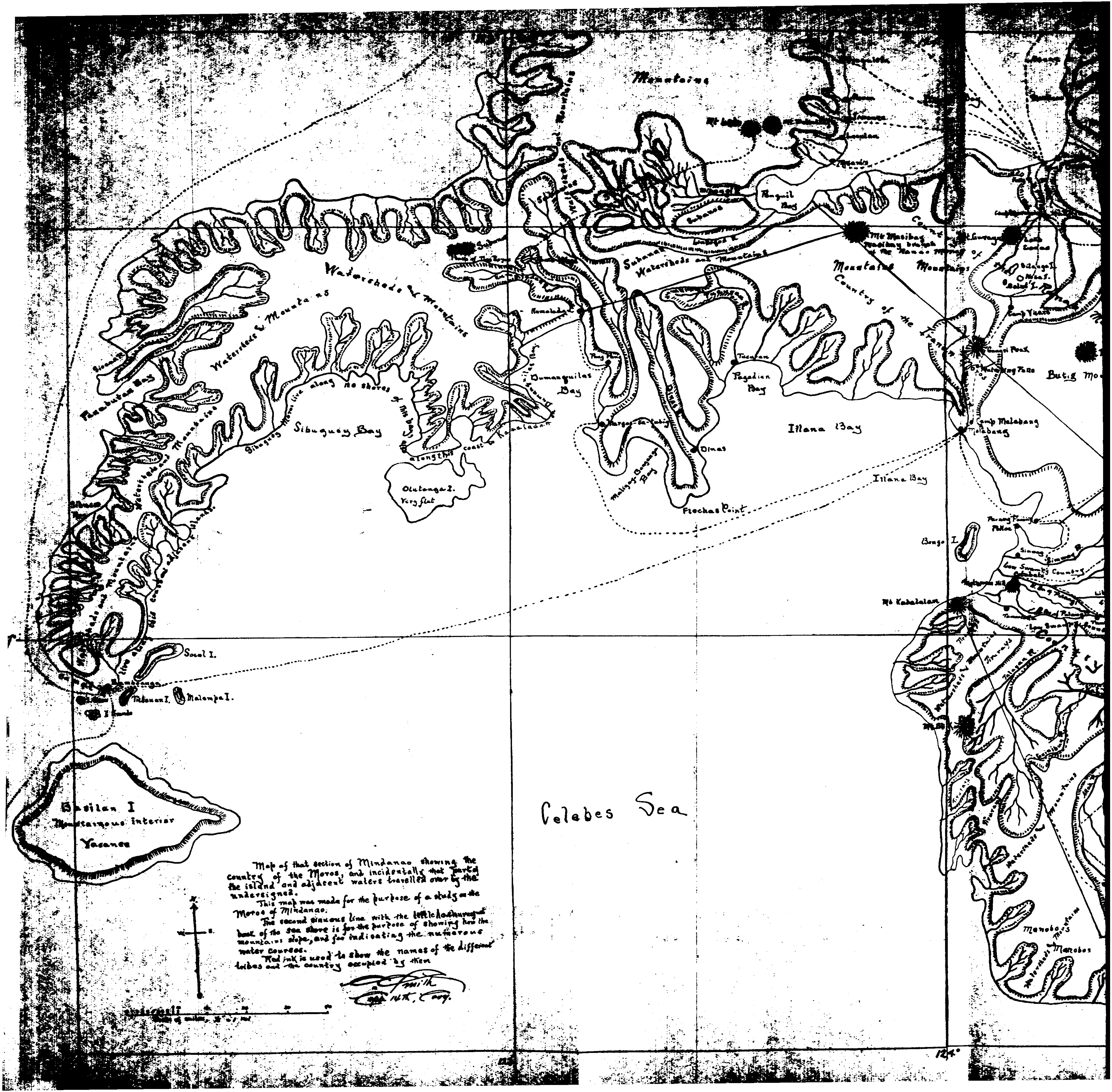
"On the 9th July, 1894, at a place called Calanajan, between the fort at Momungan and Pantar, about two hundred Moros surprised a column of two hundred men under Captain Don Pedro Salaron, killing the Captain and seventeen men, and wounding fifty-five.

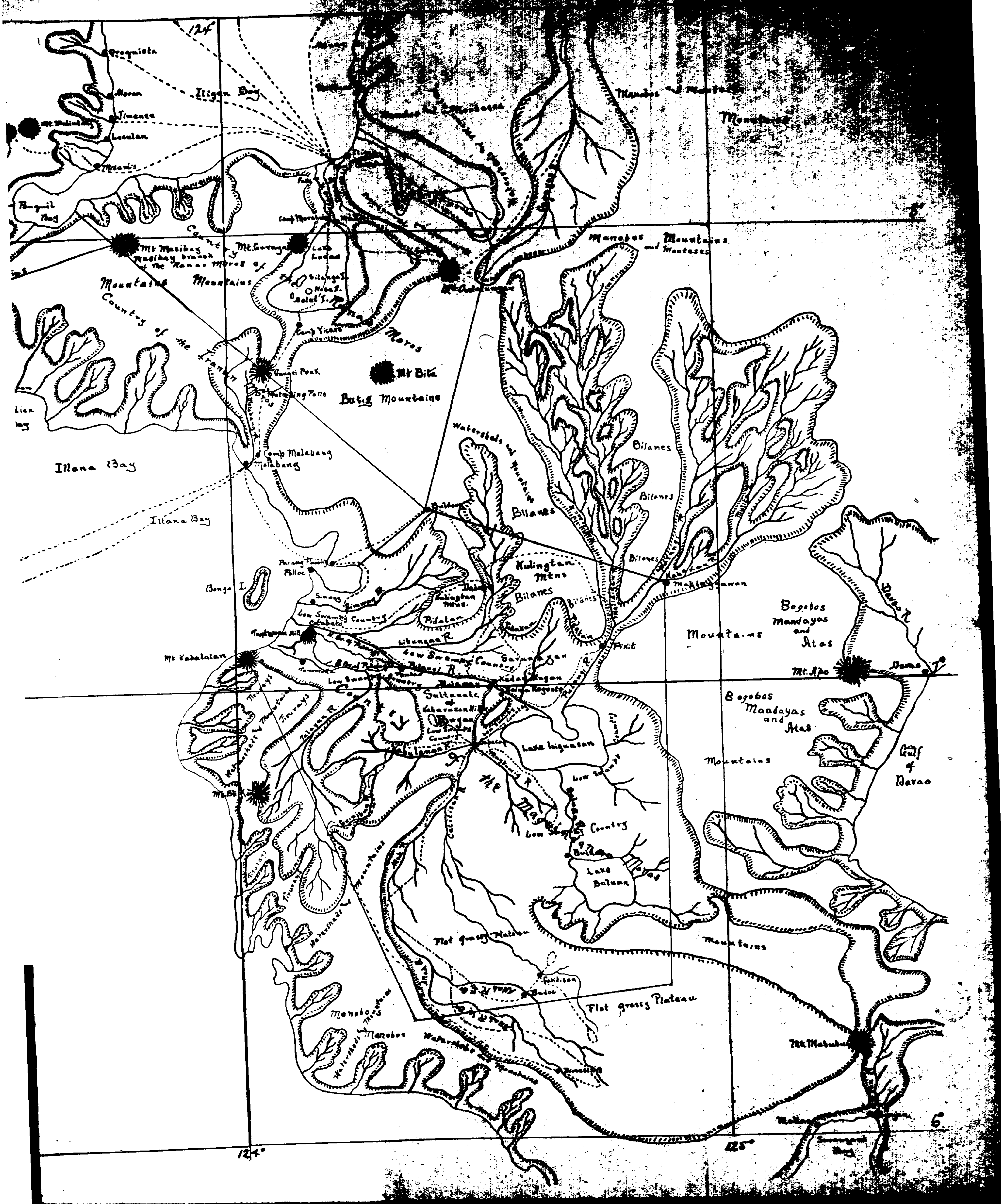
"The Moros carried off fifty-one rifles, and left twenty of their own dead on the field.

"On the 24th, seeing that they had done so well on the 9th, about a thousand Moros prepared an ambuscade near the shores of the Lake of Calanajan, and waited for the Seventy-fourth Regiment which was on its way from Cabasaran to Momungan, but the lieutenant colonel commanding the regiment having been informed that the Moros were waiting at the above lake, just before reaching there sent out scouts to locate them.

"They were discovered lying in wait, and the regiment surprised them by coming from another direction. Volleys were poured into them, and at this juncture the Seventy-first and Seventy-third Regiments arrived on the field from Momungan, surrounding them completely. The Moros now saw that they were lost, and many jumped into the lake, where they were killed.

"Our losses were two soldiers killed, and the lieutenant colonel, Don Pedro del Real, of the Seventy-first Regiment, and a staff captain, wounded.


Mountains
Ranquil Bay
Mt Masibag
Country of the
Mountains
Mountains Country of the Iranun
Subanos
Subanos Watersheds and Mountains
Watersheds & Mountains
Watersheds & Mountains
Watersheds and Mountains
Pamabutan Bay
Sibuguey Bay
Sibuguey Moros live along the shores of this bay and along this coast to Kamaladan
Dumanquilas Bay
Tucuran
Pagadian Bay
Olutonga I.
Very flat
Dinas
Malingog-Bangang Bay
Flechas Point
Illana Bay
Illana Bay
Camp Keithley
Bilangan I.
Camp Vicars
Ganassi Peak
Butig Mo
Camp Malabang
Malabang
Parang Parang
Pollok
Bongo I.
Simuay
Low Swampy Country
Mt Kabalalan
Tinurays
Talayan R.
Mt. Blit
Watersheds and Mountains
Watersheds and Mountains
Manobos
Manobos
Watersheds and Mountains
Socol I.
Zamboanga
Tictauan I.
Malompa I.
Basilan I
Mountainous interior
Yacanes
Celebes Sea
Map of that section of Mindanao showing the country of the Moros, and incidentally that part of the island and adjacent waters travelled over by the undersigned.
This map was made for the purpose of a study on the Moros of Mindanao.
The second sinuous line with the little hachures at back of the sea shore is for the purpose of showing how the mountains slope, and for indicating the numerous water courses.
Red ink is used to show the names of the different tribes and the country occupied by them
Smith
14th Cavy.
N.
W.
E.
Scale of miles
124°



124
Oroquieta
Moron
Jimenez
Loculan
Misamis
Panquil Bay
Iligan Bay
Camp Marahui
Mt Masibay
Masibay branch of the Ranao Moros of the Mountains
Country
Mt. Guraya
Lake Lanao
Bilanga I.
Nisa I.
Balat I.
Mountains Country of the Iranon Moros
Camp Vicars
Moros
Ganassi Peak
Mt Bita
Butig Mountains
Illana Bay
Camp Malabang
Malabang
Illana Bay
Watersheds and Mountains
Bilanes
Manobos Mountains and Manteses
Manobos and Manteses
Mountains
Kulingtan Mtns
Bilanes
Pidatan
Mokinggawan
Pikit
Bogobos Mandayas and Atas
Mountains
Davao R
Davao
Mt. Apo
Bogobos Mandayas and Atas
Mountains
Gulf of Davao
Bongo I.
Parang Parang
Polloc
Simuay
Low Swampy Country
Cotabato
Libungan R
Low Swampy Country
Mt Kabalalan
Tiruray
Tiruray
Watersheds and Mountains
Talayan R
Saltanate of
Low Swampy Country
Lake Liguasan
Low Swampy Country
Buluan
Lake Buluan
Moros
Mountains
Flat Grassy Plateau
Flat grassy Plateau
Gakitisan
Bodoc
Manobos
Manobos
Watersheds and Mountains
Mountains
Mt Matutum
124°
125°
6

"The Moros lost about 500, as over 200 dead were found on the field. From the killed it is estimated that about 500 would be the loss.

"Father CIPRIANO LIZARRAGA.

"ILIGAN, August 1, 1894."

* * *

Officers of the army who have served at Camp Overton or Camp Marahui, Mindanao, know Tiradores Hill (Sharpshooter's Hill) between those two posts, and will recognize that the last of the foregoing narratives is a description of the one big fight the Spaniards had with the Moros in northern Mindanao in recent years, and of which the people of Iligan always tell.

To the knowledge of the writer there is no lake near Tiradores Hill, but at its foot is a creek which runs through a very low country that in the rainy season could overflow and easily become a lagoon or lake, and the Lake of Calanajan, spoken of in the narrative, is most likely the above stream overflowed.

The Moro is frugal and temperate, his main food being rice, which he cultivates and buys from Chinese merchants in the towns bordering his country. Tropical fruits and fish (the Moro is a great watêr man) are also articles of diet. He never uses lard, grease, or tallow, and abhors pork, which the Koran teaches is unclean.

The abnormal prejudice against pork may be shown by the fact when American troops first went to Mindanao, considerable trouble was experienced with the Datus who ran the pack trains from the coast stations to supply the posts in the interior. Bacon, a very important component of the soldier's ration, was the one article that they absolutely refused to allow their henchmen to handle. So averse were they to packing bacon that the army pack trains were used for this, Moros carrying other provisions.

All intoxicants are shunned by them, this being a precept of the Koran. We doubt very much if a drunken Moro has ever been seen by a Christian.

They are a very filthy people as regards the person and around their houses, being conspicuous in the use of the

betel nut, which stains their teeth and gives them a most savage appearance.

Every Datu, Sultan, Pandita, and person of prominence, as well as the common people, use this narcotic in a most general and prominent manner. The people of rank or importance have their buyo (betel) bearers who attend them, carrying a brass tray with small boxes of the same material containing the nut, lime, etc., required for the "chew."

A good idea of their dress may be gotten from the photographs in this article, but we may add that brilliant colors are the most prevalent in their attire.

The Moro is fanatical and brave in war, and if well armed would make a foe not to be despised. He is by far the most martial of all the Philippine tribes, and lives in a country abounding in swift running streams, swamps, forests, jungle, and high and precipitous mountains, to say nothing of bad weather conditions and insect pests, which makes it a hard land to campaign in.

The country is so close, and crowded with vegetation, that it is almost impossible to get over it except by the trails, and these the Moro is cute enough to fortify or entrench at their most dangerous places, generally behind a mucky swamp or around a bend in the deep jungle or high cane grass, where troops are apt to run on them suddenly and be surprised.

Those who do not know the Moro or his country should be sparing in their criticism of an officer who with his party falls into an ambuscade. The Apache Indian in the old days of Arizona was not so difficult to come up with and fight as is the Mohammedan fanatic of the Philippines.

In concluding this paper, the writer wishes to state that he has quoted very freely from the works of Dr. Saleeby; and he has also taken extracts from the writings of others whose knowledge of the Moro is entitled to respect. To these gentlemen, and to Dr. Hubert Grieger, U. S. Army, from whom the photographs that illustrate this article were obtained, our most sincere thanks are tendered.

THE DIAMOND HITCH.

By JNO. W. PULLMAN, Colonel and A. Q. M. General, U. S. Army.

To the Editor:

IN your July number, under the article, "Pack Trains and Packing," you ask the question, "Are we ready to do away with the expert packer? The JOURNAL most emphatically says, No!"

In this stand you will be abundantly, if not unanimously sustained, by every cavalry officer and by every other officer who has ever had to cut loose from his wagons and depend on his pack animals. There can be no argument on that point.

But if you want fairly to present existing conditions as they have come to many, you should put the question this way: "Has the time come when we *have* to seek some way to *replace* the skilled packer and the diamond hitch?" By skilled packer is meant the professional civilian packer, proficient in all the details of setting up and fitting the aparejo and the use of the diamond hitch in securing miscellaneous cargo.

This question came before the General Staff, War Department, three years ago and came, it is understood, in a serious way, the result of complaints and of embarrassing and, at times, costly experiences during the Spanish War and campaigns in the Philippines. The question appeared to be of such gravity as to demand earnest attention at the hands of the War Department, and it came to the Quartermaster General's office for recommendation.

Prominent commanders had been hampered by their inability to find and employ men with a practical knowlege of the lash rope on the aparejo. Such skill was scarce, in fact could not be supplied.

These conditions would occur again should a body of expert aparejo packers suddenly be required. The scarcity of such men would be felt more and more as the years rolled by. In the western States, territories and countries contiguous—their birthplace—the breed of packers, so plentiful thirty to forty years ago, is dying out because their business is dying out. Wagon roads, steam boats and railroads have gradually curtailed and, at the present time, has practically killed the commercial pack train business and the large numbers of stalwart, hardy men, who followed packing as a living have, of necessity, sought other employment and the knowledge of their trade is being forgotten. There is no demand to keep the breed alive.

Armies in the field at war can never get away from the absolute need of pack animal transportation in some shape. The demands for such means of transportation in war are many and at times the necessity, vital. To-day we have on hand a moderate stock of aparejos and by hard drumming throughout the country we *might* scare up a few score of skilled packers, but after to-day, ten, twenty, thirty years from now—what? If preparedness is wisdom we have to look into the future.

The undersigned is an aparejo crank from necessity, training and experience. His boyhood was spent in the aparejo packing business and he followed it for a living in the sixties, in the Northwest. In the cavalry he had eighty per cent. of his troop trained in the packer's art and skilled in the use of the diamond hitch. How many enlisted men know this business to-day?

There is no device yet produced which will protect the pack animal's body from bruising and injury as well as the aparejo does. We have got to have it. Now then, how are we going to provide our future armies in the field with skilled aparejo packers? Two ways immediately present themselves.

The first is, as we cannot depend with any degree of certainty upon finding such men in sufficient numbers, to *train them*. Establish a packer's school, say at Fort Riley, and turn out year by year trained packers

But see the objection to this method. We would have to pay the student packers and their instructors wages. After we had trained and graduated them what would we do with them? A special appropriation by congress would be necessary, year after year, to meet the expenses of the school. It is much doubted if we could obtain such appropriations.

The second method presenting itself is, to *teach* a certain number of *enlisted men*, in *every organization* of the army, the packer's art. To do this, all that is necessary is to incorporate an aparejo-diamond-hitch-drill manual in the drill regulations of *every* arm. The equipment required would be only about four complete sets of aparejo rigging at each post. To day, the instructors could easily be found for the start, from among our civilian packers and, after that, the drilled men could act as instructors in each organization year after year.

To make this system a real practical success, a skilled pack master should be employed by the quartermaster's department, in each military department, inspecting, controlling and regulating the pack drill in his department. Twenty per cent. of the strength of each organization should be taught and made thoroughly proficient in packing. By this means we would always have a trained body of packers and be independent in that line.

This method is simple, plain and entirely practical and the expense would be trifling. Can it be done and will it be done? I doubt it. The General Staff would have to take the initiative. Do they or will they consider the question of sufficient gravity to take it up?

When the question, asked above, came up three years ago, as related, it was apparently answered in the affirmative *at that time*, and the undersigned was designated by the Quartermaster General to devise ways and means to provide a remedy. After much thought, labor and experiment the so called Pullman Pack Outfit resulted. It was no hap-hazard production, no mere whim or desire for innovation, but the result of a conscientious effort to fulfill an ordered duty. There appeared to be a necessity and no escape from the need of meeting it.

The sole idea was, can the aparejo and its good principles be maintained and the necessity for ropes and skilled packers, for military packing only, be done away with? Can something be brought forward to carry on pack animals, rations, ammunition and ordinary military field impedimenta, which the ordinary laborer or soldier can handle and use without special previous training? The writer is positive, from long practical experience, that the combination of the good points of the aparejo, the cross tree, the Indian method of swinging loads to the raw hide, high treed saddle and the pannier system, as shown in the Pullman Pack, fills the bill as near as may be. Of course some experimental trials have brought forth some criticisms and exposed defects, but none that, so far as shown or reported to me, are of such a nature that they cannot, in whole or part be remedied, or remedied enough anyway, to meet the necessity detailed above for a simple system for field military packing purposes.

The complete plan was, in addition to the saddle and panniers, to have the permanent steel ribbing and the setting up of the aparejos done at the aparejo factory. This done, a little daily adjusting of the hay filling of the aparejo, to meet conformation and "Bunches," (method shown in Pack Manual) is all the skill required. Of course higher authority would have to step in and have the supply departments coördinate and have all packages carrying supplies made of a uniform size and weight to snugly fit the sized pannier adopted.

If it is granted that we have to have something, it is open to the service for some one to devise and present something better than the Pullman Pack.

The simple problem is, if we can not get packers what are we going to do? In the issue of a battle or the success of a campaign we cannot consider expense. Panniers and packs may injure animals sides, wagons be broken and destroyed, railroads burnt up, men and animals killed, but we have got to go on, we have got to "get there."

Let us get the packers, if we can, and stick to the diamond hitch. If not, let us think what shall be done. You have opened up a subject of special interest to the service at large and peculiarly to the cavalry arm, to whose flying columns a pack train is indispensable. Let critics and designers get busy and suggest something.

FROM OUTING.

THE following extract is taken from an article in the June, 1906, *Outing* by Mr. Dan Beard. The article is entitled, "How to Pack a Pack Horse," and it serves to show that the army is not the only place where pack horses are used nor are army officers and soldiers the only ones interested in the question of pack transportation.

"In a previous number of this magazine, I told how to pack and unpack one's duffle for wilderness travel. It is now incumbent upon me to tell how to secure the dunnage on a pack animal's back.

"In the first place the pack animal should be blindfolded. If it is never led nor forced to move while blindfolded it soon learns to stand perfectly still as long as the bandage is over its eyes.

"We will suppose you have the pack saddle, lash-rope, cinch, aparejo, and all the needful accoutrements of a pack animal. The aparejo, by the way, is a leather or canvas bag stretched over a light springy framework of willow and stuffed with straw. It must be stiff at the edges and corners where the pull comes."

Various illustrations are used so as to show the complete method of tying the load. Both methods of with and without top load are described. Then follow directions of how to throw the sling rope for mountain pack saddle for side or top pack. Directions are also given of how to throw the North Rocky Mountain Diamond.

While the article is quite short it nevertheless gives the directions in ample language. Thirty small illustrations accompany the article.

The JOURNAL trusts that Colonel Pullman's note of warning will be heeded and interest taken by our officers in this subject. We are not particularly worried over the diamond hitch. We believe ordinarily intelligent men can be taught

how to throw the diamond hitch in a very short time. But what is required are men that know how to rig up the aparejo, and this knowledge can be gained only by experience. And so we stated in our last issue that we were not ready to do away with the expert packer. We can never do away with him unless we wish to do away with pack transportation altogether. So means must be taken to secure his services in the future Throwing the diamond hitch is not a sure mark of the expert.

Mr. Daly, chief packer, has been at work during the summer experimenting with a device that will make the diamond hitch a mechanical contrivance. We had hoped to have photographs of this device for this issue, but it was not completed in time to secure them. It is needless to say that all mechanical devices will fail as far as utility is concerned when compared with the sling rope. But things must be done, as Colonel Pullman intimates, and interest should not flag in this subject which is of such vital importance to the cavalry.

MOOT COURTS.

The following is given to show the character of some of the work done at the Infantry and Cavalry School, Fort Leavenworth, Kansas, under the direction of the Law Department.

The student officers were allowed to get information from any source they could, except from the officers on duty with the department, but the papers submitted must be their own conclusions as derived from their study of the subject. Two hours were allotted for each exercise, though it was found that much more time was taken by the officers in the preparation of their papers. Due to this fact the system of instruction has been somewhat changed and means have been adopted to prevent student officers from spending so much time on the preparation of similiar papers.

The answers of First Lieutenant E. A. Kreger, Twenty-eighth Infantry, follow the exercise. They are given to show the class of work that is being done by the student officers of the school. Lieutenant Kreger's answers are much fuller than was intended by the Department, and papers of far shorter length received as high a mark as did his. However, anyone interested in the subject will be able from reading his answers to ascertain the approved solution to the questions presented.

EXERCISE NO. 3.

I. The following charges have been preferred, and a court martial composed of officers of the First Infantry convened for the trial of the accused. The order convening the court is dated July 1, 1908.

Charge: Embezzlement, in violation of the Sixtieth Article of War.

Specification: In that Second Lieutenant Henry Stiles, First United States Infantry, while serving as captain and

commissary of the Fortieth Regiment, New York National Guard, a militia regiment duly mustered into the service of the United States, and having in his official possession as commissary of the regiment, one hundred dollars ($100.00), money of the United States, furnished and intended for the military service thereof, did fraudulently, unlawfully and feloniously convert to his own use and did embezzle the same.

This at Albany, N. Y., on the 30th day of June, 1906.

The Fortieth Regiment, New York National Guard, was mustered into the service of the United States, June 1, 1906, and mustered out (the accused included) nine months later. The day following the muster out the accused was commissioned Second Lieutenant of the First United States Infantry.

Based upon the above statement of facts the accused makes three pleas in bar of trial by the court-martial: what are they and what, in your opinion, should have been the action of the court in each case? Give reasons.

II. A soldier, Frederick Skow, Company M, Twentieth Infantry, deserted in the Philippines in 1900, during a time of war; he subsequently came into the hands of the military authorities but was not tried for some time, he claiming that his absence was due to the fact that he was a prisoner in the hands of the enemy; he was finally tried for desertion, joining the enemy, etc.

(*a*) State when the Statute of Limitation (103d Article) began to operate in his favor and when it could have been pleaded as an absolute bar of trial.

(*b*) Had he deserted in time of peace and not in face of the enemy when would the Statute have begun to operate in his favor as to the desertion?

III. Supposing Skow had been discharged from the service under the misapprehension that he had been a bonafide prisoner of war, could he subsequently have been tried by court-martial after the real facts had become known? In other words would the 48th Article of War operate to continue his liability after his separation from the service?

IV. On a military reservation where the jurisdiction of the United States is exclusive, the following facts occurred:

Contrary to law the cattle of a ranchman by the name of Boyle were grazing at large and broke down the reservation fence where the troops had a garden; they destroyed a great deal of property before the gardner, Private Jones, discovered them. He drove them out but in doing so, and while still on the reservation, threw a stone breaking off the horn of a valuable cow, thereby causing her death. Boyle coming upon the scene at that time assaulted and severely injured Private Jones, who was rescued by his comrades, the latter seizing Boyle and taking him to the commanding officer; he upheld the men, claiming that they acted under his orders.

(*a*) Can the commanding officer arrest or detain Boyle? If so, how long can he hold him and what must ultimately be done with the prisoner?

(*b*) Can Boyle be prosecuted criminally? If so, in what courts, by whom and for what?

(*c*) Can Boyle be prosecuted civilly? If so, in what courts, by whom and for what?

(*d*) Can Boyle prosecute anyone who has taken part in the affair? If so, whom, in what courts and for what?

EXERCISE NO. 3.

I. To the charge and specification, under the conditions set forth, the accused may make the following pleas in bar of trial:

1. That the court is without jurisdiction to try him for the reason that the composition of the court is in violation of the 77th Article of War.

The court, composed as it is of officers of the regular establisment, is without jurisdiction over the person of the accused, as the 77th Article of War provides that officers of the regular army shall not be competent to sit on courts-martial to try officers or soldiers of other forces, except as provided in Article 78. The exception provided in Article 78 does not reach the case at bar, and thus it is left within the rule laid down in the 77th Article. Though the accused

is at present an officer of the regular establishment, he did not belong to the regular service at the time the alleged offense was committed. At the time of the commission of the offense, or at any time thereafter within the period specified in the 103d Article of War, the statute of limitations, and while the accused was still serving as a volunteer or a militiaman duly mustered into the service of the United States, though amenable to trial, the accused could not legally be held to answer to a court-martial composed of regular officers. This doctrine, though directly opposite to the views of the War Department, was laid down in the case of Deming vs. McClaughry, by the Circuit Court of Appeals (113 Fed. Rep. 639), and affirmed by the Supreme Court of the United States (186 U, S. Sup. Ct. Rep. 49). The gist of the decision is that it is plain that Congress intended to place volunteers and all other persons in the temporary service upon the same basis, for purposes of trial, as the militia; that officers of the regular army are incompetent, under the 77th Article of War, to try officers or soldiers of the volunteer forces raised under the Acts of April 22d, 1898, and March 2, 1899; that no officer is authorized but that every officer is forbidden to constitute of officers of the regular army a court-martial to try a volunteer; and that the accused cannot, by any act of his, confer upon a court improperly constituted the jurisdic- to try him. The amenability of the accused to trial is based upon his status at the time the offense was committed. At that time this court could not have tried him. His subsequent entry into the regular service cannot serve to create a jurisdiction that did not exist at the time the offense was committed. (Par. 1927 Dig. Opin. J. A. G.). The law under which Lieutenant Stiles performed his volunteer service is the law referred to in the decisions above. In spite of his entry into the regular service, the accused is entitled, as to this offense, to the benefit of any plea growing out his status as an officer of "other forces" at the time the offense was committed.

The court would, for the reasons stated, properly sustain this plea.

2. That the accused cannot be held to answer for the offense as charged, for the reason that trial is barred by the statute of limitations, the 103d Article of War.

The offense as charged, was committed on the 30th day of June, 1906. The order convening the court is dated July 1, 1908, more than two years after the offense, as charged, was committed. The charges could not have been referred for trial before the convening order for the court was issued. There is no allegation that the accused had absented himself ro that "some other manifest impediment" to trial had existed, to prevent the statute of limitations from running. In fact the conditions as they appear, the service of the accused, for some months after the offense is said to have been committed, in the volunteer establishment, his muster-out from that service, his appointment to the regular service within the short space of one month, and his service in the regular army since then, preclude any probability if not any possibility of the existence of any cause that would prevent the statute from operating in favor of the accused. It is the duty of the government to prosecute an alleged offender within a reasonable, that is within the statutory time. Failing to do this the statute forbids any criminal proceedings, when the accused pleads the limitation. It has been expressly held that the statute limits the liability of the accused to trial after discharge, imposed by the last clause of Article 60. (Davis page 536.) The case comes squarely within the provisions of the first clause of the 103d Article of War, and within the authoritative interpretations of the article.

The court will, therefore, properly sustain this plea.

3. That the court is without jurisdiction to try the accused for the offense as alleged, for the reason that when the accused was mustered out of the volunteer service he became a civilian; that thereafter he ceased to be amenable to military jurisdiction; and that the concluding clause of the 60th Article of War under which it is sought to hold the accused is unconstitutional. The concluding clause of the 60th Article of War seeks to make individuals, who, by reason of their separation from the military service, have become

civilians, amenable for trial by court-martial. This is a deprivation of the constitutional right of civilians to trial by jury. The provision was enacted as a war measure, at a time when civil rights could not be as jealously guarded as in ordinary times; at a time when the safety of the nation demanded energetic and sometimes drastic measures. Even then the provision was relied upon as giving jurisdiction in only a very few cases, and since the Civil War there appears to be no case in which the provision has been invoked. If the accused had ceased, during the time intervening between his volunteer service and his entry into regular service, to be triable by a court martial, his subsequent entry into the regular service cannot operate to revive a jurisdiction once lapsed. (Par. 1027, Dig. Opin. J. A. G.). The case of Deming vs McClaughry, previously cited, bears upon the same point, in that it was held in that case that the accused could not by any act or acquiescence on his part confer jurisdiction upon a tribunal that but for such act would be without jurisdiction. Though not exactly in point, G. O. 157, W. D., 1904, points in the same direction.

I believe that the court would be justified in not sustaining this plea, not because it is wholly without merit, but because the constitutionality of the part of the article in question has never been passed upon judicially, though it has been questioned, and because the sustaining of the other two pleas will terminate the trial in any event for the time being until the proceedings thus far can have been forwarded to the reviewing authority for his action thereon. However, I cannot escape the conclusion that a civil court in passing upon the question might or probably would hold that the plea should probably have been sustained.

Note: The accused might possibly feel justified in making the plea of constructive pardon, on the ground that his appointment to the regular service after the commission of the alleged offense was in effect a pardon; or that the discharge from the volunteer service, being a formal waiver of military jurisdiction over him, operated in the same way. As to the first proposition, the data is not sufficient. Circumstances might arise in which an appointment would

operate as a constructive pardon, but more, I think, would have to appear than is here of record to make the plea good. The second proposition is bound up with the question of the constitutionality of the 60th Article of War, and the decision of the court on that plea would bring about a like decision on a plea of the kind suggested. I do not believe therefore, that the accused would benefit by raising the question in the last form.

Any one of the pleas being allowed by the court, the proceedings are, for the time at least, terminated, and the court adjourns, the record of its action being forthwith transmitted to the reviewing authority.

II. (*a*) The statute of limitation began to run in favor of Private Skow when he came into the hands of the military authorities again after his desertion. The desertion being in time of war and in the face of the enemy, the limitation in the Act of April 11, 1890, the latter half of the 103d Article of War, is superseded by the general limitation which is contained in the first clause of the Article. (Davis, p. 113).

The statute would be an absolute bar to trial when two years had elpased during which the accused could have been brought to trial, that is two years* after his again coming into the hands of the military authorities, provided of course he did not again absent himself, and that in the mean time no "other manifest impediment," as provided in the 103d Article of War, prevented the exercise of the military jurisdiction.

Note: I take it that the question as to the statute of limitations is confined to the case as stated, where he subsequently came into the hands of the military authorities. Had he not come within military jurisdiction again after deserting in time of war and in the face of the enemy, an entirely different question arises. The Judge Advocate General, in the case of a private of the Ninth Infantry who deserted in China in November, 1900, recently held that as a state of war existed at the time of the desertion the deserter

*The two years are computed, not to the date of arraignment, but to the "issuing of the order for the trial."

was not entitled to the benefit of the statute of limitations as provided in the 103d Article of War. (Army and Navy *Journal*, March 25, 1905, p. 799).

(*b*) Had Skow deserted in time of peace, and never again come into the hands of the military authorities, the statute would have begun to run in his favor at the expiration of the term of enlistment in which he was serving, unless he was absent from the United States at the time of such expiration, and in that case it would begin to run in his favor as soon after the expiration of his current term of enlistment as he ceased to absent himself from the United States. Just what interpretation is to be put upon the expression "from the United States" in view of our territorial accessions I can find no adjudication concerning, but it would seem that being in our insular possession would have to be held to be within the United States, as the accused is as fully within our jurisdiction in the insular possessions as he would be at home.

III. After discharge Skow was no longer amenable to trial by court-martial, and the 48th Article of War, cannot serve to continue the amenability to trial which existed prior to his discharge but which was terminated by the discharge. (Par. 68, Dig. Opin J. A. G.; Davis, p. 431; G. O. 157, W. D. 1904).

IV. (*a*) Paragraphs 519 and 521, Digest of Opinions, Judge Advocate General, seem to be directly in point on this question. Paragraph 521 holds that in case of a crime or offense against the United States committed by a civilian on a reservation under the exclusive jurisdiction of the United States, the commanding officer is authorized to arrest the offender and cause him to be brought before a United States Commissioner or other official specified in Sec. 1014, R. S. In point of fact the actual arrest of Boyle was carried out by the enlisted men who carried Boyle before the post commander. They took him in charge while he was actually engaged in a breach of the peace. The post commander, in upholding the men and claiming that they acted under his orders, makes the arrest his own act — an act that is authorized as per the authority cited. The de-

operate as a constructive pardon, but more, I think, would have to appear than is here of record to make the plea good. The second proposition is bound up with the question of the constitutionality of the 60th Article of War, and the decision of the court on that plea would bring about a like decision on a plea of the kind suggested. I do not believe therefore, that the accused would benefit by raising the question in the last form.

Any one of the pleas being allowed by the court, the proceedings are, for the time at least, terminated, and the court adjourns, the record of its action being forthwith transmitted to the reviewing authority.

II. (*a*) The statute of limitation began to run in favor of Private Skow when he came into the hands of the military authorities again after his desertion. The desertion being in time of war and in the face of the enemy, the limitation in the Act of April 11, 1890, the latter half of the 103d Article of War, is superseded by the general limitation which is contained in the first clause of the Article. (Davis, p. 113).

The statute would be an absolute bar to trial when two years had elpased during which the accused could have been brought to trial, that is two years* after his again coming into the hands of the military authorities, provided of course he did not again absent himself, and that in the mean time no "other manifest impediment," as provided in the 103d Article of War, prevented the exercise of the military jurisdiction.

Note: I take it that the question as to the statute of limitations is confined to the case as stated, where he subsequently came into the hands of the military authorities. Had he not come within military jurisdiction again after deserting in time of war and in the face of the enemy, an entirely different question arises. The Judge Advocate General, in the case of a private of the Ninth Infantry who deserted in China in November, 1900, recently held that as a state of war existed at the time of the desertion the deserter

*The two years are computed, not to the date of arraignment, but to the "issuing of the order for the trial."

was not entitled to the benefit of the statute of limitations as provided in the 103d Article of War. (Army and Navy *Journal*, March 25, 1905, p. 799).

(*b*) Had Skow deserted in time of peace, and never again come into the hands of the military authorities, the statute would have begun to run in his favor at the expiration of the term of enlistment in which he was serving, unless he was absent from the United States at the time of such expiration, and in that case it would begin to run in his favor as soon after the expiration of his current term of enlistment as he ceased to absent himself from the United States. Just what interpretation is to be put upon the expression "from the United States" in view of our territorial accessions I can find no adjudication concerning, but it would seem that being in our insular possession would have to be held to be within the United States, as the accused is as fully within our jurisdiction in the insular possessions as he would be at home.

III. After discharge Skow was no longer amenable to trial by court-martial, and the 48th Article of War, cannot serve to continue the amenability to trial which existed prior to his discharge but which was terminated by the discharge. (Par. 68, Dig. Opin J. A. G.; Davis, p. 431; G. O. 157, W. D. 1904).

IV. (*a*) Paragraphs 519 and 521, Digest of Opinions, Judge Advocate General, seem to be directly in point on this question. Paragraph 521 holds that in case of a crime or offense against the United States committed by a civilian on a reservation under the exclusive jurisdiction of the United States, the commanding officer is authorized to arrest the offender and cause him to be brought before a United States Commissioner or other official specified in Sec. 1014, R. S. In point of fact the actual arrest of Boyle was carried out by the enlisted men who carried Boyle before the post commander. They took him in charge while he was actually engaged in a breach of the peace. The post commander, in upholding the men and claiming that they acted under his orders, makes the arrest his own act—an act that is authorized as per the authority cited. The de-

tention of Boyle will be dependent, to some extent upon circumstances. The post commander cannot properly hold Boyle and notify a commissioner to send for him, but should himself take affirmative action with a view to turning Boyle over to the commissioner or other official specified in Sec. 1014, R. S. Should no such official be accessible at the time, the post commander may detain Boyle in the guard house, "but only for such interval as may be necessary." An information should be filed by Private Jones with the official before whom Boyle is taken. The post commander should, I think, see to it that this is promptly done. The commissioner or other official will thereupon issue a warrant for Boyle, under which the civil authorities will then hold him.

(*b*) Boyle may be prosecuted criminally in the Federal Courts for assaulting and beating Private Jones. The offense being one over which the district and circuit court have concurrent jurisdiction, the trial could be had in either one, but would in all probability actually be heard by the district court. The prosecution would be in the name of the United States, and would be conducted by the United States District Attorney, and in the district within which the offense was committed.

The statement of the case sets forth that the cattle were grazing at large contrary to law. If, at the time that the State in question ceded to the United States the exclusive jurisdiction over the reservation, there was in force in that State a law making it a criminal offense to permit cattle to run at large, the provisions of Sec. 2, Chap. 576, Act of Congress, approved July 7, 1898, would apply, provided the statutes of the United States did not provide a penalty for the offense. If the conditions are such as to make the provisions of the act referred to applicable, then Boyle can be prosecuted in the Federal Courts, in the name of the United States, and by the United States District Attorney for this offense as well. The machinery of the law would be set in motion in the same way, that is by information filed before a commissioner or other proper official, by one who was personally cognizant of the commission of the offense.

(*c*). Boyle has by his action subjected himself to being prosecuted civilly in the following manner:

(1) Jones vs. Boyle, an action in tort, for personal injuries: If Jones and Boyle are both citizens of the same State this action will have to be brought in the State courts. If Jones and Boyle are citizens of different States, and the matter in dispute, that is the amount of damages asked, is less than two thousand dollars, exclusive of interest and costs, the action would also have to be brought in the State courts, the case being legally cognizable in the courts of that State in which legal service of notice can be had. If Jones and Boyle are citizens of different States, and the amount of damages asked, exclusive of interest and costs, exceeds two thousand dollars, the action may be brought in the Circuit Court of the United States, in the district of the residence of either the plaintiff or the defendant. In the latter case the action could also be brought in the courts of the State in which legal service of notice can be secured, but it would then be subject to removal to the Federal Circuit Court, though legally triable by the State Court if the right to removal is not insisted upon. (Hughes' Federal Procedure, paragraphs 92 and 113).

(2) The United States vs. Boyle, an action for damages growing out of the destruction of the reservation fence, and for any damages to the realty, both being the property of the United States. In this case, the United States being the plaintiff, the Federal Circuit Court is the proper tribunal, and the district attorney would appear for the government. (Hughes' Federal Procedure, paragraph 92).

(3) There still remains the cause of action growing out of the damages done by the cattle to the post garden. This phase of the question presents some difficulties. In discussing this point with an attorney in the City of Leavenworth recently, I was advised that the firm of which he is a member had at one time been concerned in an action brought in the interest of the post exchange. The attorney was unable to find his brief in the case at the time, but stated that he was of the opinion that they had brought the action in the name of the United States. If the action could be brought

in the name of the United States for the benefit of the post exchange, I can see no reason against bringing the action against Boyle in this case in the name of the United States; as a recovery here would accrue to the benefit of the enlisted men in the army in the same way that a recovery in the case mentioned must have accrued. If this theory is correct the Federal Circuit Court would be the proper tribunal, but I think that the district attorney would not necessarily appear for the plaintiff, though he might properly do so. I have been unable to find any direct statutory provision on the subject, nor have I been able to find any parallel case of record, but in view of the fact that the United States furnishes the ground, that the post garden is an institution provided for by regulation for the benefit of men in the United States service, and that the regulations provide for the application of the proceeds and products derived therefrom, I can see no good reason why the action should not be brought in the name of the United States.

If the action cannot be brought in the name of the United States, who can be made the plaintiff of record? There is no one person who is the real party in interest, nor is the body of enlisted men who profit by the post garden a corporation or a partnership. Pomeroy in his Remedies and Remedial Rights lays down the doctrine that where the issue is one of common or general interest to many persons, or when the parties are very numerous and it may be impracticable to bring them all before the court as parties plaintiff or defendant, one or more may sue or defend for the whole number who are thus interested. The enlisted men of the post are the real parties in interest here, and their number would seem to make the doctrine applicable. Under this view the action might be brought in the name of one or more of the men for the benefit of all, or possibly by the officer in charge of the post garden for the benefit of the interested enlisted men. But the statutory provisions relating to the subject are the main if not the sole basis of this kind of jurisdiction, and the question would therefore, be dependent upon the statutory provisions in force in the State in which the reservation was located, for unless the

amount of the damages reached the sum of $2,000.00, exclusive of interest and costs, the case, if brought in this manner, would have to go before a State court and thus be subject to the State statutes.

(*d*) Boyle may bring an action if he sees fit to do so, with very little ground of hope for a recovery, as follows:

(1) Boyle vs. Jones, an action for damages growing out of the death of a cow. As the cow could hardly be worth $2,000.00, the case would have to be brought in the State courts in the jurisdiction where he could secure legal service of notice upon Jones. The question of recovery would be one for the jury. If they could be convinced that Jones used more force than was necessary or than would have been used by a man of ordinary prudence and forethought under the circumstances, a recovery might be had, otherwise not.

(2) Boyle vs. the Post Commander, as a private individual, for damages for false imprisonment, if he is of the opinion that the post commander acted without warrant of law in causing the arrest or detention. The same action would lie against any other person concerned in the arrest and detention. The court in which the action would have to be commenced would be determined according to the principles discussed in *c* (1) of this paper.

(3) If the reservation is located in one of those States whose statutes provide for criminal prosecution for what is commonly known as cruelty to animals, or criminal prosecution for offenses cognate to the common law crime of malicious mischief, and such law was in force at the time of the cession of exclusive jurisdiction to the Federal Government, and the circumstances connected with the act were such as to bring it within the definition of these offenses, then it would seem that Boyle might by filing the proper information secure the criminal prosecution of Jones in the federal courts, under the blanket provisions of Sec. 2, chap. 576, Act of Congress approved July 7, 1898, provided, of course, there were no federal statute covering the case.

INFANTRY AND CAVALRY SCHOOL PROBLEM.*

DEPARTMENT OF MILITARY ART, INFANTRY AND CAVALRY SCHOOL.

Course in Organization, 1906–7.

PROBLEM 2.

Value of subject, four; that of each answer is shown by the number on the left of the page.

Time, four hours.

Give paper same heading as problem.

Write answers to requirements only, each opposite to its serial number placed at the left of the marginal line, leaving an interval of not less than one line between consecutive answers.

Place your number in the upper right hand corner of each separate sheet.

Accuracy, neatness, and compliance with the above instructions will be given a value not to exceed three per cent. in marking the paper.

Suppose Congress decides to maintain a force of regular army reserves sufficient to fill up the present cavalry organizations to war strength and to make the number of enlisted men in the infantry six times as strong as the cavalry; field artillery and special troops to be provided for in the proportion given in F. S. R. for the organization of a division.

Required:

1. Make a table showing how the mobile forces of the United States would be organized in case the regular army

*This problem is one given the infantry and cavalry class in this year's course in the subject of Organization. Approved solution will be given in the next issue.

with all these reserves should be called out to serve in one body.

Table to show distribution of regiments in brigades, brigades in divisions, and divisions in corps; also distribution of the various units of the special troops.

2. Give number of enlisted men of each arm and of each class of special troops, omitting the troops of the medical service.

APPROVED SOLUTION TO PROBLEM IN APRIL (1906) JOURNAL.

(SEE MAP, PAGE 334.)

DEPARTMENT OF MILITARY ART, INFANTRY AND CAVALRY SCHOOL.

Course in Security and Information, 1905–'06.

MAP PROBLEM NUMBER 2. OUTPOSTS.

First Requirement.

From the top of Bellevue Hill Lieutenant Colonel A can see the following important military features: The country to the front is open, no timber except the Beekman and Hinesburg woods about a mile to the south. The point of view is on a ridge extending to the southwest, the ground sloping some five or six degrees immediately in front, and then more gently to the Onion River, which is about six hundred yards to the south and flows in a northeasterly direction. This stream is apparently everywhere passable, but a considerable obstacle to all arms of the service. The only bridges in sight are Fay's, about five hundred yards to the south, and that of the railroad, eleven hundred yards to the southwest.

To the south of the river the ground rises for about half a mile to a ridge running northeast and southwest, and con-

taining Prospect and Birch hills. Beyond this ridge there appears to be a valley, and beyond this, at a distance of about two miles, the ground again rises into view, being open and hilly.

The towns in sight are Addison, about one half mile to the southeast, Hinesburg, about one mile south, Youngtown, a little less than a mile and a quarter south, Charlotte, about a mile and a half to the southeast, and Vinton, about two and a half miles to the southeast. All are small towns and of little military importance.

A good road extends to the south through Hinesburg and Vinton, and another extends along the south side of the Onion River, while one runs in a southeasterly direction from Addison. A railroad crosses the Onion River from the northwest at the bridge above mentioned and thence runs northeast, south of and parallel to the river. A branch line leaves it at Addison and runs toward the southeast.

Aside from the obstacle of the Onion River, the country is everywhere passable and generally favorable for the action of all arms. There is a general lack of cover, except that to be derived from the folds of the ground.

There is a good field of fire to the south from Bellevue Hill, and also one north from Prospect Hill.

Second Requirement.

Substance of Lieutenant Colonel A's outpost orders:

The enemy's cavalry, strength about one squadron, engaged a squadron of our cavalry twenty miles southeast of Vinton yesterday. The main Blue force is encamped at Spencer.

Major X will establish an outpost with Company A, and the First Platoon of Company B and a squad of twelve cavalrymen. The outpost is to be relieved tomorrow morning.

The line of observation will extend from Gravel Hill to Hinesburg Woods. Patrols will be pushed to the southeast via Vinton and Charlotte. In case of attack the line of observation will be held. The main body of the detachment will provide for the observation of the road west of the river.

The detachment will camp in Swanton Woods, two hundred and fifty yards west of Bellevue Hill, and will be prepared to occupy a defensive position near the head of Cedar Creek.

Reports will reach me with the main body.

Third Requirement.

Having assembled the officers of the companies, Major X gives the following instructions:

The enemy's cavalry, strength about one squadron, engaged a squadron of our cavalry twenty miles southeast of Vinton yesterday.

The main Blue force is encamped at Spencer.

Our main body will encamp in Swanton Woods.

The First Platoon, Company B, under Lieutentant B, will form the right support, which, posted at the junction of the railroad and Bolton-Addison road, will hold the right section of the line, extending from the Onion River, exclusive, to the north spur of Birch Hill inclusive.

The First Platoon, Company A, under Captain C, will form the center support, which, posted at the junction of the railroad and the Swanton-Hinesburg road, will hold the center section of the line extending from the north spur of Birch Hill, exclusive, to the Jones' farm, inclusive.

The Second Platoon, Company A, under Lieutenant D, will form the left support, which, posted at Addison, will hold the left section of the line, extending from the Jones' farm, exclusive, to Section House 1, exclusive.

The twelve troopers will be under my orders, taking post with the center support. Sergeant E, with five troopers, will reconnoiter the Swanton–Vinton road three miles beyond the latter point; and Corporal F, with two troopers, will push out along the Addison–Charlotte road for a distance of about three miles beyond the latter point; both returning at dusk.

In case of attack, the line Gravel Hill–Prospect Hill–Hinesburg Woods will be held.

Reports will reach me with the center support.

Fourth Requirement. (See map.)

(As the cost of producing a map with the approved positions of sentry squads and pickets marked thereon in black and red, is too great to warrant its production at this time, the positions are described for the fourth requirement. From this discription the reader can place the troops himself.)

One sentry squad is at Bolton. This is made a picket at night, remaining in practically the same position. This picket has two patrols. One down the road southwest to where the road runs off the map; the other, down the southeast road to some 200 yards below Hunting Lodge.

One sentry squad is at the cross trails in the Hinesburg Woods, just below the letters R G. of the word HINESBURG. At night this is made a picket, and thrown forward about 150 yards to the next cross trails. This picket has two patrols. One west to meet the patrol below Hunting Lodge (mentioned above); the other goes to the east of picket position for some 400 yards and then returns, making a small loop. Two sentries are thrown forward from the picket to where the trail strikes the Fielding–Hinesburg road.

One sentry squad is at top of Prospect Hill. At night it is made a picket and moved to Quarry. This picket has two patrols. One south along road to below Hinesburg, connecting with patrol from the picket next on the west; the other, east to Jones. One sentry squad is put in Hinesburg.

One sentry squad is near south end of road cut, Addison Charlotte road, out about 200 yards northwest of Booth's Mill. At night it is made a picket and thrown forward on the road to within 100 yards of Booth's Mill. Two sentries are at Booth's Mill. This picket has two patrols. One west to Jones; the other, north along the west bank of Sucker Branch to Section House No. 1.

Fifth Requirement.

DAY POSITIONS.

Right Support: First Platoon, Company B; one First Lieutenant and sixty three men. Furnishing: Sentry squad No. 1—one Sergeant and seven men; Sentry squad No. 2—one Corporal and seven men.

Center Support: First Platoon, Company A; one Captain, one Second Lieutenant and sixty-three men; and one Cavalry squad—one Sergeant, one Corporal, and ten men—furnishing: One Sentry squad—one Sergeant and seven men.

Left Support: Second Platoon, Company A; one First Lieutenant and sixty-two men. Furnishing: One Sentry squad—one Sergeant and seven men.

NIGHT POSITIONS.

Right Support: First Platoon, Company B. Furnishing: Picket No. 1—one Sergeant commanding, three noncommissioned officers and twenty-four men (picket sentinel, three; patrol, nine; patrolling post, twelve.) Picket No. 2—one Sergeant commanding, three noncommissioned officers and twenty-four men (picket sentinel, three; road sentinel, three; two patrols, eighteen.)

Center Support: One platoon, Company A. Furnishing: One picket—one Sergeant commanding, five noncommissioned officers and thirty-five men (picket sentinel, three; two patrols, eighteen; Sentry squad, fourteen.)

Left Support: Second Platoon, Company A. Furnishing: One picket—one Sergeant, three noncommissioned officers and twenty-seven men.

Sixth Requirement.

The cavalry will be posted with the center support, under the immediate orders of the outpost Commander. A patrol of six men will reconnoiter the Swanton–Vinton road for a distance of three miles beyond the latter point, and patrol of three men will be pushed out on the Addison–Charlotte road a like distance beyond Charlotte. Three troopers will remain at the center support. Both patrols will return at dusk. The cavalry will be permitted to rest during the night, and be sent out at daylight again in the same manner as before. The duties of these patrols while out will be to watch for and report indications of the enemy, and to obtain any information that they can as to the movements of our advanced cavalry.

PRIZE PROBLEM NO. 3.

(See Map Opposite.)

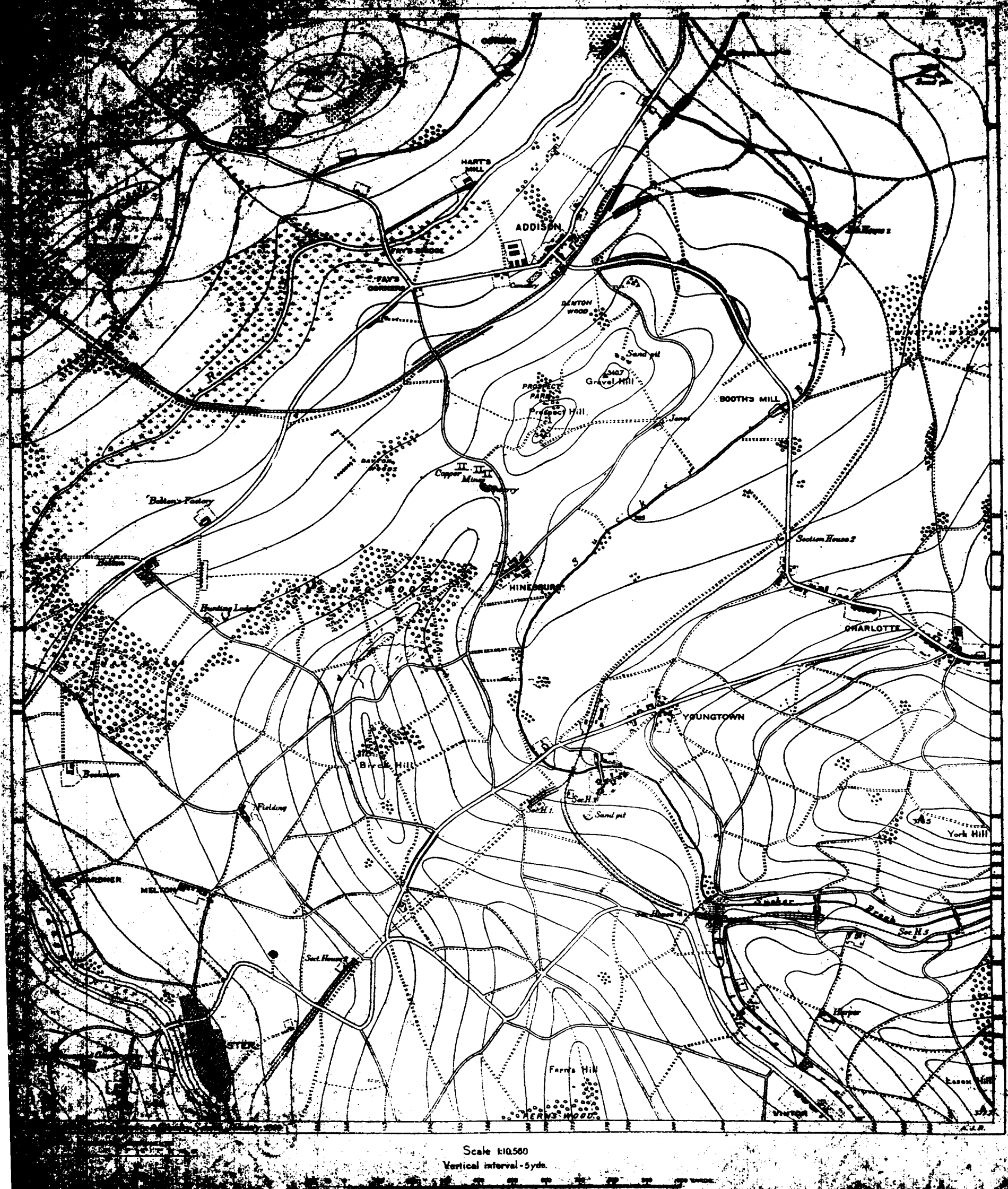
Situation:

On October 1, 1906, a troop of cavalry, constituting the advance cavalry of an important convoy of a western force (Blue), is ordered to reconnoiter through Charlotte and check or delay any eastern force (Red) that may be marching on Fay's Bridge. The advance guard of the escort is expected to reach the bridge at 1:30 P. M. At noon when the leading element of his troop reaches Swanton, the commander of the western troop learns that a battalion of eastern infantry is approaching Charlotte from the east and is at that time one-half mile from the town.

Required.

1. The troop commander's estimate of the situation.
2. A statement of the dispositions he makes.

INSTRUCTION IN PATROLLING. No 1.



PISTOL VERSUS SABER.

By Captain M. C. BUTLER, Seventh Cavalry.

FROM my experience as a troop commander, I am convinced that, in order to attain that proficiency in time of war to which we are striving to bring the cavalryman, there is a handicap of too many arms. This is especially true in the time allotted in the enlistment. The question naturally arises, which of these three arms can we best dispense with in time of war. It seems to me that the uses of the saber should be confined to garrison duty (parades, etc.), and riot duty. It is very doubtful to my mind whether the benefit we derive from the saber in battle repays us for the trouble in taking care of it. Of course nothing but the test of war will decide the question of the pistol versus the saber; and I can only give my ideas formed from my experience in instructing men in the use of both arms.

I realize the good use that a proper saber may be put to as a reserve power, but I confess that I can never become reconciled to the present saber under any circumstances. Let any officer attempt to instruct his men in the fencing exercises, mounted and dismounted, with the present saber and he will be convinced of the tremendous waste of time that could be profitably employed otherwise. I have heard it said that we will get another saber and scabbard. I have have also heard it said that the judgment day is coming.

In advocating the advisability of leaving the saber behind in time of war I assume that the cavalry soldier is properly instructed in the use of the pistol mounted, which is certainly not the case now. How could he be with a limited amount of instruction once a year? And yet we have had cases in our Civil War where men, and great numbers of them, have entered the Confederate service without any

preliminary instruction whatsoever in the use of fire arms from horseback; these men were put into service almost immediately and were soon taught the importance of a judicious expenditure of ammunition and effective use of the pistol in their charges, etc. Stern necessity is a tremendous impetus for a man to at least attempt to do the right thing at the right time. Constant practice under such circumstances will make a man an expert. Such were Forrest's men, very few of whom, if any, had sabers, and these men learned from constant practice to render a good account of the pistol mounted. The cavalry on both sides in Virginia made many spectacular charges with the saber, but I am not aware of any tremendous havoc having been created on either side by that weapon alone. The cavalrymen of Virginia were taught to rely almost entirely upon the saber in charges; they would have accomplished the same results as Forrest's men had they been forced to rely on the pistol in the charge. The battle of Trevilian Station, probably the most severe cavalry fight of the war, was fought almost entirely with fire arms, the saber cut very little figure. In the article in the July number of the JOURNAL by the cavalry board, mention is made, "The saber thus used was often not sharpened." This will be the case in an active campaign; either the troopers will be too worn out to keep their sabers sharpened or there will be no facilities at hand for that purpose. It is a question whether the cavalryman will take the trouble to keep a keen edge on his saber.

I do not think it is impossible to make men withhold their fire until the collision. When a man once realizes that his life is seriously at stake, and one charge will bring him to that realization, he will surely see the great necessity of making the best use of his ammunition. A charge will usually be resorted to when there is apparently some advantage to be gained.

Suppose that it is made with the saber—the result is, the enemy thrown into confusion and some damage inflicted—the feeling of self preservation in the face of danger is so strong that the party attacked at once becomes a mass of dodging energy and the man with the saber soon realizes

that it is not such an easy matter to reach as many as he would like. A small percentage, I venture to say, would be put "hors de combat" and the remaining large percentage would be ready to fight you again another day. Suppose the same charge is made with the 45 caliber pistol, and the soldier is armed with another pistol in place of the saber as a reserve, the party attacked will experience some difficulty in dodging the bullets at close quarters, and the percentage of men and horses put "hors de combat" will be much greater. Every hit with so large a bullet will require the serious attention of a surgeon.

As to whether the use of the pistol is incompatible with shock action, the test of battle alone, will prove it. In the hands of experts the pistol, I should think, could be used effectively in shock action. In considering the charge in close order the question of proper management of horses, and consequently, good bitting, enters. I hope we will not have to wait until judgment day before the excellent recommendations of the cavalry board in this respect are adopted.

The results obtained with the carbine mounted, mentioned by Lieutenant Colonel Parker,* are certainly surprising and is an argument in favor of the use of the carbine instead of the saber as a reserve weapon for the pistol. There should be more instruction in the use of the carbine mounted. The table in the same article showing the results of pistol and saber is interesting. To my mind the damage inflicted by the pistol, the 38 caliber, if you please, and represented by 70.5 per cent., is greater than that inflicted by the saber as represented by 94.5 per cent.

How much greater would be the damage created by the 45. cal? With practice the percentages of the pistol would be greater as the men became more expert as shots and in management of their horses.

The damage to horses with the 45 cal. would be considerable and it is doubtful if such would be the case with the saber. The saber percentage would be lowered in actual battle from the fact that many of the blows would be parried or dodged. I very much doubt whether the pistol percent-

*See July, 1906, JOURNAL.

age would be lowered in near the same proportion, because the chances of dodging a bullet at such close range are remote to say the least. Once your opponent is five feet from you, you are harmless—not so with the pistol.

If I were asked in what my troop is most deficient, I should without hesitation say, the use of the pistol mounted. Every troop commander should be allowed to drill his troop as he sees fit every other month in the year, so as to enable him to instruct his men in what they are most deficient. Instead of this he is usually bound by orders directing that certain instructions be given. He is rarely if ever consulted as to what instruction is most needed in his troop. I am aware that a great many of our oldest cavalry officers cling to the saber as a prime factor in the charge. Doubtless some are influenced to a certain extent by sentiment—the saber has so long been a distinctive cavalry weapon that they are loath to part with it. I believe our boot to boot cavalry charges will not be of frequent occurence in the future wars—certainly not so much so as has been in the past. I do not pretend to deny that there is a decided element of danger to one's own men when the pistol is used in the charge, but I believe that the training acquired by practice will overcome this to a great extent, if not entirely. The pistol will be soon emptied, but the extra pistol and the carbine will be sufficient as a reserve.

I hope that in the near future the 45 cal. pistol will be issued again. As regards the moral effect, it seems to me that the man with the pistol is favored. The mere consciousness that at a certain stage you are at the terrible disadvantage of not being able to strike back, to say nothing of a possible wound from a 45 cal. pistol, is enough to take the heart out of a man. In a mêlée it certainly is a question of your life or the other man's, and under the circumstances I should prefer to face the saber rather than the business end of the pistol.

In the absence even of an experience on the battlefield with either the pistol or saber, I am convinced that neither will be effective in the hand of a novice. I think everyone will agree that shooting is by far the most important part of

a soldier's education. If more target practice is allowed with rifle and pistol the results obtained will be most gratifying to all concerned. If we are to retain the saber for war let us have a lighter blade and a leather scabbard. But two arms are sufficient for any soldier to handle effectively in battle.

Reprints and Translations.

TEST OF AUTOMATIC PISTOLS.

From Supplement No. 57 of the *International Revue of the United Armies and Navies*, December, 1904,

TRANSLATED BY G. W. BIEGLER, FIRST LIEUTENANT TWELFTH CAVALRY, DECEMBER, 1905.

DURING the spring and fall of 1903, and in the spring of 1904, there was conducted at Rosenburg a series of tests of automatic pistols, by a commission appointed for that purpose. As these tests may be looked upon as a step in the selection of a modern arm for the officers of the Swedish army, it should be of interest to follow the details of the trials as given in the "Artilleri Tidskrift."

During the tests the following pistols were investigated:

Two Parabellum Pistols.
Two Browning Pistols, No. 1, model 1900.
Two Colt-Browning pistols.
Two Mannlicher pistols.
Four Mannlicher-Carbine pistols.
One Hamilton pistol.
Two Browning pistols, No. 2, model 1903.
Two Frommer pistols.

For purposes of comparison there were also present the Schwedish 7.5 mm. revolver, model '87 and the Russian 7.62 revolver, model '95.

DESCRIPTION OF THE ARMS.

The size and weight of the various arms will be found set forth in table No. 1.

The Parabellum pistol (Von-Borchard-Luger) has a caliber of 7.65 mm. The bolt is equipped with the so-called mechanical rear action. That is, the barrel itself takes part in the movement of the bolt. After the movement of the barrel ceases and the locking pin is liberated by a bolt, a knee or locking device is thrown up. After the empty shell is thrown out the knee drops back into position and the pistol is ready for use again.

The pistol has a separate magazine for eight cartridges which are shoved into the stock from below.

It is fitted with a double device for security. One locking device consists of a small slide on the left side which is managed by the thumb. By this means the pistol is kept in readiness for instant use, at the same time it is readily locked and perfectly secure. The second device is automatic and the lock is released by pressure of the hand on the stock when used.

After the last cartridge has been fired from the magazine the knee springs into position and remains thus so that one may see instantly that the pistol is empty.

The Browning pistol No. 1, model '00, has a caliber of 7.65 mm. and a so-called gas pressure mechanical action, a characteristic of which is that all of the mechanism of the piece, including the case itself, participates in the action in reloading. The magazine will hold seven cartridges and is loaded in the stock from below.

The safety device is a simple slide on the left side of the stock which is worked by the thumb by means of which the pistol is kept in readiness for instant use.

The Colt-Browning pistol has a caliber of 9.5 mm. the mechanical action being by means of a bolt. It looks very much like an enlarged Browning pistol. The magazine, which is shoved into the handle from below, holds seven cartridges. After the magazine is empty the pistol will still

work, the hammer snapping on an empty chamber. This is also the case with the Browning.

The Colt-Browning has an exposed hammer, the half cocking of which furnishes the only safety device.

The Mannlicher pistol has a calibre of 7.63 mm. and is operated by gas pressure. It is loaded with eight cartridges held in a clip similar to the Mauser device. When the last shot is fired the mechanism stands open so that one may see that the pistol is empty.

This pistol also has an outer hammer, but it cannot be half cocked. The safety device consists of a turning screw, manipulated by the tumb when the pistol is held in readiness.

The Mannlicher-Carbine pistol is much larger and stronger looking than either of the foregoing arms, while the calibre is about the same.

It has the familiar bolt action. Six cartridges are placed in a loading chamber. When the last shot is fired the mechanism stands open.

In case the exposed hammer fails to work, it can be cocked by means of a lever on the right side. The safety device consists of a fluted slide on the rear of the mechanism which is moved by the thumb.

The Hamilton pistol has a calibre of 6.5 mm. and gas pressure action. The magazine holding seven cartridges, is inserted in the handle from below. When the magazine is empty the hammer will usually snap on an empty chamber one time. The safety device consists of a slide on the right hand side, which, as a rule, requires both hands to work.

The Browning pistol No. 2, modle. '03, has a calibre of 9 mm. and a gas pressure action. It is loaded the same as the Browning pistol No. 1. When the last shot has been fired the lock stands open.

The safety device is a double one similar to that of the Parabellum pistol.

The Frommer pistol has a calibre of 8.00 mm. and the bolt action results in an unusual movement of the barrel during the loading. Ten cartridges fit in the chamber. When the pistol is empty it is indicated by the open breach.

There is an outer hammer and the safety device consists of a button on the left side. A movement of this button to the rear locks the arm. It can be unlocked by means of one thumb, but in order to secure it both hands are required.

All of the pistols which are loaded by means of a separate magazine can, in common, be loaded with an extra cartridge in the chamber.

THE FIRING TESTS.

Accuracy. In order to test the arms for their shooting ability for practical purposes, a series of from three to fifteen shots were fired from each one, using a rest consisting of a pile of sacks filled with shavings at ranges of ten, thirty, fifty and one hundred meters. The better shooting pistols were tested at 150 and 200 meters. In addition to this, scores were fired without a rest at ten and thirty meters.

A number of scores were also fired with a view of testing the difference in the shooting while using the firm or loose gripe. All the pistols showed that there was little difference in the work in this regard.

The result of the tests demonstrate that the automatic pistols shoot closer than the revolvers and have a greater range. Further, it is shown that the Parabellum pistol takes first place in this regard.

Of the great advantage and the difference in effectiveness between the unusually long bullett of the Frommer and the very short one of the Browning, it is hardly necessary to speak. Because of the lack of carrying power displayed by the revolver, it is plain that a greater initial velocity is of more value in the construction of a pistol than any particular form which the projectile may take. It is a correct principle of construction and one which increases the effectiveness of the single shot by an increase of the initial velocity through enlarging the calibre and slightly reducing the size of the bullet, the object being to secure the full benefit of the gas pressure. (See table No. 1.)

MEASUREMENT OF THE VELOCITY.

With a view to recording results the living power, ten meters from the muzzle, was measured by means of Boulonge's Chronograph. The Colt-Browning Pistol No. 2, took first place and the Hamilton pistol was the lowest in the list, with the Schwedish revolver second to the bottom.

Test of the rapid firing qualities: The results are shown in table No. 2. It shows that the Parabellum and Browning pistols are undoubtedly the best of all with regard to the important demand of a rapid firing, single handed weapon.

Determining the effect of single shots: The results are shown in table No. 3. It is demonstrated that all of the pistols have a greater penetrating power than the Schwedish revolver with its cased bullet; and that it even fell short of the penetration of the blunted bullet which was also used.

In order to test the weapons on a non-elastic target, a clay target was provided. It was determined during this test that the most effective weapon made a hole from three to four times as great as the bullet from the Schwedish revolver.

It should also be noticed that the bullet with the flat head made a much larger hole than the pointed or oval bullet. This is true of the oval shaped bullets which form is supposed to increase the penetrating powers.

Firing in the Dark.—In order that a pistol be of value for self-defense in a hand to hand affair, deliberate aiming and sighting is impossible. For this purpose it is important that a pistol be constructed like a shot gun, which is readily directed against a target without first bringing the eyes on an actual line with the sights. In order to determine which of the weapons at hand came nearest filling these requirements, repeated tests were made during the twilight and half darkness of the evening. The firing was at figure targets at fifteen meters and it was not possible to see the sights during the firing. During the tests, which were made under almost actual field conditions, and the firing very rapid, the following averages were made:

Parabellum Pistol	23 per cent hits
Browning No. 1	11 per cent hits
Colt-Browning	32 per cent hits
Mannlicher	24 per cent hits
Mannlicher Carbine Pistol	18 per cent hits
Schwedish Pistol	10 per cent hits
Browning No. 2	40 per cent hits (X)
Frommer Pistol	30 per cent hits (X)

(X) When the Browning No. 2 was tested in 1903 it showed forty-per cent hits. When tested with the Frommer in 1904, the same pistol made forty two per cent. against thirty-two. The last figure was reduced for the purpose of equalization.

In this particular the Browning No. 2 showed its superiority over all the others. This is due in part to the fact that its advantageous form permits the firer to follow the sights quickly with the eyes, and in part because of the length of the pistol, which makes it a closer shooting weapon than the Browning No. 1.

Durability Test.—Over one thousand shots were fired with each pistol. With the Parabellum 1,430 shots were fired, 140 of which were fired one after another without cleaning. After the 800 shots had been fired the extractor broke and had to be replaced.

A great number of the shots fired with the Browning No. 1 were fired without cleaning the pistol. In all 1,420 shots were fired with this pistol.

A Colt-Browning was fired 1,550 times, a great many shots rapidly and without cleaning.

The Mannlicher pistol was fired 1,375 times. At one time, after it had been used for some time, the lock became stiff and finally refused to work at all.

A Browning No. 2 was fired 1,340 times. After 790 shots, 300 of which had been fired in rapid succession, the claw of the extractor broke. The shells were thrown out slowly by the gas pressure for a while, but it finally refused to fire altogether. After the extractor was replaced 540 shots were fired, 450 without pause. It was shown that the pivot of the safety device and the extractor interfered repeatedly and that small fragments of the bullets were scraped off during

MEASUREMENT OF THE VELOCITY.

With a view to recording results the living power, ten meters from the muzzle, was measured by means of Boulonge's Chronograph. The Colt-Browning Pistol No. 2, took first place and the Hamilton pistol was the lowest in the list, with the Schwedish revolver second to the bottom.

Test of the rapid firing qualities: The results are shown in table No. 2. It shows that the Parabellum and Browning pistols are undoubtedly the best of all with regard to the important demand of a rapid firing, single handed weapon.

Determining the effect of single shots: The results are shown in table No. 3. It is demonstrated that all of the pistols have a greater penetrating power than the Schwedish revolver with its cased bullet; and that it even fell short of the penetration of the blunted bullet which was also used.

In order to test the weapons on a non-elastic target, a clay target was provided. It was determined during this test that the most effective weapon made a hole from three to four times as great as the bullet from the Schwedish revolver.

It should also be noticed that the bullet with the flat head made a much larger hole than the pointed or oval bullet. This is true of the oval shaped bullets which form is supposed to increase the penetrating powers.

Firing in the Dark.—In order that a pistol be of value for self-defense in a hand to hand affair, deliberate aiming and sighting is impossible. For this purpose it is important that a pistol be constructed like a shot gun, which is readily directed against a target without first bringing the eyes on an actual line with the sights. In order to determine which of the weapons at hand came nearest filling these requirements, repeated tests were made during the twilight and half darkness of the evening. The firing was at figure targets at fifteen meters and it was not possible to see the sights during the firing. During the tests, which were made under almost actual field conditions, and the firing very rapid, the following averages were made:

Parabellum Pistol	23 per cent hits
Browning No. 1	11 per cent hits
Colt-Browning	32 per cent hits
Mannlicher	24 per cent hits
Mannlicher Carbine Pistol	18 per cent hits
Schwedish Pistol	10 per cent hits
Browning No. 2	40 per cent hits (X)
Frommer Pistol	30 per cent hits (X)

(X) When the Browning No. 2 was tested in 1903 it showed forty-per cent hits. When tested with the Frommer in 1904, the same pistol made forty-two per cent. against thirty-two. The last figure was reduced for the purpose of equalization.

In this particular the Browning No. 2 showed its superiority over all the others. This is due in part to the fact that its advantageous form permits the firer to follow the sights quickly with the eyes, and in part because of the length of the pistol, which makes it a closer shooting weapon than the Browning No. 1.

Durability Test.—Over one thousand shots were fired with each pistol. With the Parabellum 1,430 shots were fired, 140 of which were fired one after another without cleaning. After the 800 shots had been fired the extractor broke and had to be replaced.

A great number of the shots fired with the Browning No. 1 were fired without cleaning the pistol. In all 1,420 shots were fired with this pistol.

A Colt-Browning was fired 1,550 times, a great many shots rapidly and without cleaning.

The Mannlicher pistol was fired 1,375 times. At one time, after it had been used for some time, the lock became stiff and finally refused to work at all.

A Browning No. 2 was fired 1,340 times. After 790 shots, 300 of which had been fired in rapid succession, the claw of the extractor broke. The shells were thrown out slowly by the gas pressure for a while, but it finally refused to fire altogether. After the extractor was replaced 540 shots were fired, 450 without pause. It was shown that the pivot of the safety device and the extractor interfered repeatedly and that small fragments of the bullets were scraped off during

the firing and fell into the magazine, making its action heavy. The last shot, however, carried as well as the first one.

Altogether there were about 2,000 shots fired with each pistol tested. Fewer shots were fired from the Carbine, the Hamilton and the Frommer pistols. During the firing the following mechanical weaknesses were observed.

The Parabellum.—Very often, particularly during cold weather when the lubricant was heavy, the bolt would not move forward into position after a shot. If one failed to notice this fact the weapon would lock and both hands would be required to put it in working order again. This is an important weakness.

Browning No. 2.—In eight different instances a cartridge was projected in such a manner as to require its removal by hand before the pistol would work. Otherwise the mechanical action was perfect.

Colt-Browning.—In both styles of Colt-Browning it was found that the cartridges jammed frequently and the shells as well, delaying the action of the weapon in each instance.

The Mannlicher pistol jammed four times on empty shells and the magazine stuck several times, due to the accumulation of lead from the bullets falling into it.

The Carbine Pistol.—During the firing of 500 shots, while the action was almost perfect, it was found several times that the mechanism was not in the most perfect order.

The Browning No. 2 stuck three or four times because a shell or cartridge became twisted.

The Hamilton usually jammed on the last cartridge in the magazine.

The Frommer pistol failed more than thirty times in 390 trials from one cause or another.

Sand and Dust Test.—The pistols were cleaned, lubricated and the magazines loaded. Fine sand and dust were then shaken over them from all sides. The pistols were then fired until the magazines were empty and the following observations made:

The bolt of the Parabellum would not close and had to be pushed in place by hand.

The Browning No. 1 worked perfectly.

The bolt of the Mannlicher would not go forward to its place.

Some of the pistols were not subjected to this test.

While the Browning No. 1 stood this heavy test perfectly, the Colt-Browning and the Browning No. 2 showed up well also, as all the mechanism of the Browning pistols is well protected.

Dirt and rust test.—With the exception of the Hamilton and Frommer pistols, all the others were subjected to the following test: After having been fired a number of times the magazines were loaded and the pistols placed in a barrel. The barrel was placed in the open air one day and in a warm room the next, alternating for nine days. At the end of this period the magazines were emptied by firing. All the pistols work perfectly.

The condition of the ammunition is of greater importance to the automatic pistol than to any other arm, for a mis-fire is not only a disappointment, but might result very seriously to the user. This disadvantage is greater because of the delay in withdrawing the defective shell from an automatic pistol. It is a most serious disadvantage in the gas pressure system because both hands are required to remove the shell.

It is therefore fortunate that ammunition makers have reached the point where miss fires are rarely heard of. Among the many thousand shots fired during the tests, not one miss fire could be blamed to the ammunition. The failures to fire seemed to be due altogether to some weakness in the arm itself.

In order to determine if the ammunition was proof against climatic conditions, a package of cartridges was allowed to lay in the snow for more than a day and next removed to a warm room. This was repeated several days until the case fell to pieces, when the cartidges were fired. There was no noticeable difference.

To determine what the effect of uneven gas pressure would have on the mechanism, some of the bullets were driven far into the shells, and in other cases the end of the

bullets were cut off. There was no noticeable difference in the action of the pistols under these conditions. This test was conducted with the Parabellum, Colt-Browning and Browning No. 1 and 2.

JUDGING THE PISTOLS.

With the assumption that the automatic pistol shall replace the revolver and not the carbine, (which from a ballistic standpoint is much superior to the pistol, whether it be equipped with a shoulder butt or not), we can form from the test the following opinions:

The Browning No. 1 is a pleasing weapon. Because of its advantageous form, its length and slight weight, it will crowd out the older pocket revolvers. For uses during war this pistol, as well as the Mannlicher and Hamilton, cannot be considered seriously. The operation of these pistols for single shots, the lack of rapidity, together with several other weaknesses, were much more pronounced in these than in any of the other models tested.

On the ground of lack of rapidity the Colt-Browning, the Carbine and the Frommer pistols are also no better equipped to replace the revolver. The first and last named arms are uncertain in their action. The Frommer and Carbine pistols are large and heavy to handle without any improvement in execution to compensate for the same.

There remains, therefore, but two weapons between which a choice must be made, the Parabellum and the Browning No. 2. Both stand equal from point of rapidity of action, measuring up to the revolver. The Parabellum is somewhat better as a target pistol, but the mechanism did not work as well during the tests as that of the Browning. The Browning has, moreover, a greater reach than any of the others except the Colt-Browning, has a much more favorable form, is more readily carried in a holster and is a much better shooting arm for field work. On these grounds and because the pistol gave satisfaction in other ways, the commission is of the opinion that the Browning No. 2 is the best service pistol for all conditions.

However, there are several mechanical changes to be suggested in the pistol, which it is thought can be made without great trouble. The following improvements are suggested.

The dark rounded barrel of the pistol, especially in bad light, cannot be readily followed by the eye of the firer in sighting. It is recommended that a small ridged arch, similar to that on the shot gun, be run from the breech to the muzzle.

The safety lock and extractor must be secured in a better manner, so that they do not fly out whenever the pistol is fired. The two sharp edges projecting from the rear of the butt, might cause discomfort and should be rounded off. The side pieces should be of tougher material.

Finally the projectile must be reduced or flattened in front similar to the Prussian cartridge, even though the penetrating power be reduced somewhat in order to increase its stopping power. If the pistol is to fill the requirements of self-defense in the hands of troops these alterations should be made.

However desirous it may be to keep the personal arm of the officers and noncommissioned officers up to the modern standard, it is not yet of sufficient interest to the government to warrant to adoption of an entirely new arm, so long as the old service revolver continues to fill so many of the requirements. It is, however, not more than proper that the government should give those who desire it, the opportunity of securing a more modern arm than the one we now have. Many good reasons exist for the government making it possible and convenient to exchange the old for a new model.

As the knowledge of the antiquated style of the present revolver becomes known among the officers it is more difficult to maintain an interest in pistol practice. With an arm that after a dozen shots becomes foul and inaccurate in its work, interest is bound to lag which works to the detriment of the service.

It is thought that the introduction of automatic pistols might be brought about by allowing the officers to exchange the old for the new model, if they so desired. Such an

arrangement would cause no increased expense, as all of the newly appointed officers would secure the automatic arm, and such others as desired to change for the new. In this manner the wishes of the individual for an improved arm would be met and the interests of the government furthered by an increased interest in pistol practice among the officers.

In closing the above interesting investigation of the Schwedish army some of the recent changes in other armies in regard to the automatic pistol, so far as announced, are given.

OFFICIALLY ANNOUNCED.

In Belgium the 7.65 mm. automatic Browning repeater pistol is manufactured under direction of the government at the arsenal near Luttich for issue to officers.

Switzerland is having the 7.65 mm. automatic Parabellum (Borchard-Luger, 1900 system) manufactured in the factory of L. Lowe in Berlin, for use by all mounted troops.

In Germany the Parabellum pistol is being manufactured for use of officers. The results of the tests of the 7.63 Mauser, still being used to some extent, have not been announced.

Bulgaria has adopted the Parabellum 1903 (German origin) for use of the officers of all arms.

In America the Parabellum and Colt are being tested with the choice still unmade. The latest reports favor the Colt.

In Austria tests have been carried on with the following styles for several years: Dormas system; Ritter system of Mannlicher, model of 1894; G. Roth system M. T., revolver made by the government at Steyr; Ritter system of Mannlicher, model of 1902; Luger-Borchard system; Leopold Gasser clip loading revolver, and the new model repeater pistol system of G. Roth.

In Italy an automatic pistol made at Parma is being tested. Details are not available.

If the pistol is to be used in earnest as a defensive arm in close contact it is important to the cavalry that it should be a pistol which can be used mounted as well as under other circumstances.

TABLE No. 1.

Size, Weight, Etc.

Name.	Arms.			Cart'ge.		Projectile.			
	Caliber mm.	Weight kg.	Length cm.	Weight gm.	Length mm.	Weight g.	Length mm.	V. 10 m.	Driving force at the Muzzle mk.
Parabellum	7.65	0.885	23.7	10.1	30.	6.0	14.7	333	34
Browning No. 1, M. 1900	7.65	0.625	16.3	7.7	25.	4.6	11.7	288	19
Colt-Browning	9.50	1.000	23.0	13.3	32.	8.3	14.8	295	37
Mannlicher	7.63	0.830	23.0	9.0	28.	5.6	14.0	270	21
Mannlicher Carbine	7.65	0.990	27.0	11.0	35.	5.6	14.0	341	33
Hamilton	6.50	1.200	27.0	77.1	30.	4.1	14.0	228	11
Russian Revolver, M. '95	7.65	0.800	24.0	11.7	39.	7.0	15.9	[2] 20	26
Schwedish Revolver, M. '87	7.50	0.800	24.0	11.0	35.	6.7	16.4	223	17
Browning No. 2, M. 1903	9.00	0.960	20.0	11.3	28.	7.1	13.0	318	37
Frommer	8.00	1.050	[1] 27.5	10.6	31.	7.4	16.9	278	34

1. With hammer cocked 28.5 cm.

2. This record was taken from another table.

TABLE No. 2.

Rapidity of Fire.

Names of the pistol.	No. of cartridges held in the magazine or chamber.	Time necessary to fill magazine.	Time required to empty magazine or chamber.	Time required to take pistol from holster, unlock and fire one shot.	Time required to take pistol from holster and fire eight shots.	D. 50 at 10 meters cm.
Parabellum	8	21"	11"	3.1"	10.5"	12
Browning No. 1, M. '00	7	23"	10"	4.1"	11.2"	19
Colt-Browning	7	17"	8"	3.4"	11.8"	11
Mannlicher	8	Chamber	10"	4.7"	14.2"	11
Mannlicher Carbine	6	"	8"	3.3"	8.7"	13
Schwedish Revolver M. '87	6	25"	31"	3 "	10.3"	16
Browning No. 2 M. '03	7	17"	9"	3.1"	10.5"	14
Frommer	10	Chamber	14"	4 "	15 "	19

Hamilton pistol jammed and was not tested.

TABLE NO. 3.

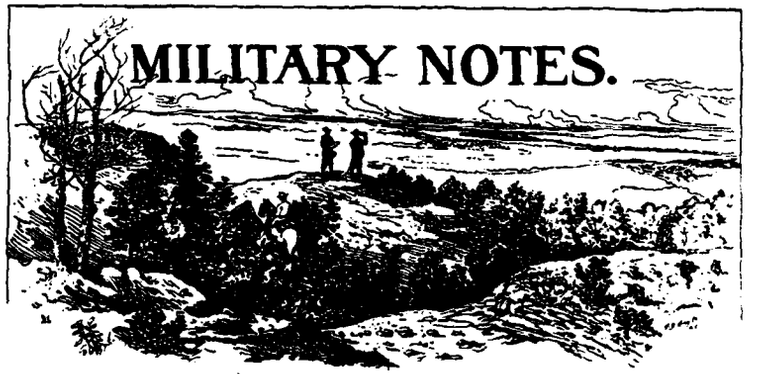
Results of Single Shots.

Name of Pistol.	Shape of cartridge bullet. Average penetrated at 10 meters.	Number of pieces of dry pine boards penetrated. Each 2.8 c. m. thick. Average at 10 meters.	Average at 50 meters.	Clay plates 9 c. m. thick, firing at 8 meters, average diameter of hole shown. 1
Parabellum	with Oval head	5.4 pieces	4.6 pieces	8.1 c. m.
Parabellum	with Flat head			9.7 c. m.
Browning No. 1	with Oval head	3.8 pieces	2.7 pieces	7.4 c. m.
Browning No. 1	with Flat head			7.7 c. m. 2)
Colt-Browning	with Oval head	4.5 pieces	3.8 pieces	8.5 c. m.
Colt-Browning	with Flat head			9.1 c. m. 2)
Mannlicher	with Oval head	3.4 pieces	3.0 pieces	7.0 c. m.
Mannlicher Carbine	with Oval head	5.0 pieces	4.0 pieces	8.7 c. m.
Hamilton	with Oval head	2.8 pieces	2.5 pieces	
Russian Rev., m '95	with Flat head	4.5 pieces		
Browning No. 2	with Oval head	4.9 pieces	4.6 pieces	8.2 c. m. 3)
Browning No. 2	with Flat head	3.3 pieces		8.6 10.5 c. m.
Frommer	with Oval head	5.2 pieces	5.2 pieces	
Schwedish Revolver	with Oval point	2.5 pieces	1.6 pieces	5.1 c. m.

1. Clay plates were placed behind one another with a slight space between. The record shows the average of at least three shots for each plate.

2. The head of the bullet was filed off until the diameter of the same was ¾ mm.

3. The lowest records were made by flattened bullets, the nose of which showed a diameter of 4 mm. The higher records were made by bullets, the heads of which had a diameter of 6 mm. In the last case a tie resulted, as none showed more than a slight mark on the surface of the rear plate.



"A LESSON IN PICTURE" CONTINUED.

FORT ROBINSON, NEB., July 9, 1906.

To the Editor of The Cavalry Journal:

I HAVE read with some interest the different modes proposed of holding the double rein, with the reasons for each method, and have received the cards sent out by the JOURNAL showing different means of obtaining the same end in view, simplicity and the easiest way to enable the rider, especially in our case, the enlisted man, to have and to keep perfect control of the animal which carries him and his equipment complete. Of all the ways suggested, I have come to the conclusion that the "French Cavalry (Anderson) Method" is the best one proposed and the one we should adopt slightly modified.

Figures 2 and 4, in Captain Henry's article, in the July issue of the JOURNAL, 1906, are modifications of Figure 3, and in my opinion not as good, because the reins are not as free, and not subject to as perfect control as shown in Figure 3.

For many years I have used the double rein in the manner known as the "French Cavalry Method," with this modication, viz: the curb reins instead of coming over the forefinger on top of the snaffle rein, comes over the second finger, having naturally assumed it as being the easiest and simplest way to hold the reins, feeling that I had perfect control. By simply moving the wrist the hand was ready at any time for the use of each rein, bit or bridoon; the hand was not cramped and no need to watch and see if you were on the proper rein. Turning the wrist toward the body you knew the bridoon was in use; turning the wrist outward you felt the pressure of the curb.

My views are my own, and probably will meet with objections from some, perhaps from many, yet I offer them as a help in deciding upon the selection of the method to be adopted.

Years of experience should count for something it is presumed. I add my mite to the discussion. I believe there is no better method than the one suggested, and hope it may receive consideration. No mistakes will be made, and teaching the men under new conditions, with double reins, this method will prove the easiest and give the best results. We must avoid any system that borders on a complex method. The simplest, if effective, is the best, and in my opinion, the method proposed will prove, if tried, to be the best. At any rate it is far better, less complex and better suited, in my opinion, than any method so far advanced.

With the reins held as advocated, the position of the bridle hand is the same as now prescribed, which is another good reason for adopting this method.

J. A. AUGUR,
Colonel Tenth Cavalry.

We are particularly glad to see this subject, which has been brought to the attention of the readers of the JOURNAL during the past year, has now received the attention of the

War Department. Attention of all officers is called to G. O. 146, W. D., August 16, 1906.

The JOURNAL sees no reason for changing its views as expressed in the January issue of this year. In other words we still adhere to the belief in the English method, the one explained in "A Lesson in Picture." This, however, does not prevent us from obeying the spirit of G. O, 146, and we are now riding with the Anderson hand, the one described in the order.

Our objection to this hand is that as long as the scientific principle is to be uppermost, the really scientific one, the Le Bon method, should have been adopted. For this is the one that gives the separate play of the two sets of reins to the greatest advantage. However, we have found that this method so fills our hand with reins that we feel as though we had a ball of mud in our grasp. And for a hard mouthed horse the hand is weak.

The reason for the JOURNAL'S belief in the English method is that the officers at Riley, where the double rein has been quite extensively tried, tell us it is far the simplest for the enlisted men to learn. It would seem, as Captain Henry stated in the last issue of the JOURNAL, that the soldier can be taught any method with equal ease. But such was not found to be the case. And ease of instruction should be considered carefully before we give ourselves up thoroughly to the scientific methods.

However, we are glad the subject is attracting such attention and we hope the War Department will have no objection to furnishing the JOURNAL with the reports that are due on December 31, 1906, under G. O. 146.

We are sorry to state that a mistake of transposition in the July issue of the JOURNAL gave the wrong names to two of the hands described by Captain Henry. To obviate this misunderstanding all four of the hands described by him were printed on a single sheet, properly named, and sent to every mounted organization in the service, as was done with the "Lesson in Picture." The plate given as Figure 4, page 148, July 1906, JOURNAL, should be placed on page 147, and

the plate on 147 should be placed on page 148. In other words, Figure 4, page 148 is the Anderson hand, and the one tentatively adopted by the War Department.

We again print it for the benefit of the service as the cut is much plainer than those in G. O. 146.

FRENCH CAVALRY (ANDERSON) METHOD.

COUNTY FAIR CAVALRY.

BY CARLE A. WOODRUFF, BRIGADIER GENERAL U. S. A., RETIRED.

I HAVE read with much interest the little article, "County Fair Cavalry," in the April issue of the JOURNAL; it carries me back a period of over twenty years when I had a like experience, and I can almost believe that Sergeant Coogan, served with me in old Light Battery F, Second Artillery, (now Fourth Battery Field Artillery).

In September, 1885, I was ordered by the Department Commander to take my battery from Fort Leavenworth, Kan., to St. Joseph, Mo., to take part in the fair then being held in that city. A train of cars was furnished and in a few hours we were landed in the city above mentioned.

Imagine my surprise on pulling into the depot at St. Joseph, to have the cars flooded with large red hand bills, of which the enclosed is a copy. I did not relish being one of the "special attractions," but I became used to it during the ten years that I remained in Kansas as a light battery commander. My lieutenants on the occasion of this St. Joseph trip were G. F. E. Harrison, now Lieutenant Colonel Artillery Corps; Lotus Niles, now Major Artillery Corps, and attached, Arthur Williams, now Lieutenant Colonel Fifteenth Infantry. My men, like the County Fair Cavalry, ate their meals sitting on the grass near the battery kitchen shack, and because the polite country people walked all over them, painted on a large board the words, "Wait and see the soldiers eat hay," which they displayed at the sounding of mess call each day. I made many County Fair trips during the years, 1885 to 1894, and though at the time I did not much relish them, I look back now upon that period as the happiest ten years of my life.

The Greatest of all

ATTRACTIONS

BATTERY F,

2d Light Artillery, U. S. A.,

from Fort Leavenworth

will arrive on the Exposition Grounds to-day,

Thursday, September 3d, at 5:00 o'clock, P. M.

To-morrow, Friday, the Battery will go through a regular course of Field Exercises, Firing, Etc.

This Battery is fully equipped, consisting of 6 pieces of Artillery, 75 horses, with a full compliment of men, and requires a train of

12—— CARS ——12

To transport it from Fort Leavenworth.

The maneuvering and firing will occur immediately in front of the Grand Stand, which seats 10,000 people, so all can have a full view.

REMEMBER

This Battery is brought here by the managers of the Exposition, and can only be seen on the Grounds during Friday. It is a sight to be seen only once in a lifetime.

CHAS. F. ERNST,
Secretary.

DEPARTMENT OF SIGNAL ENGINEERING, THE U. S. SIGNAL SCHOOL, JUNE, 1906.

EXTRACT FROM LECTURE ON "FIELD LINES OF INFORMATION" BY MAJOR GEORGE O. SQUIER, SIGNAL CORPS.

MILITARY lines of information may be conveniently divided into two classes, as follows:

1. Tactical lines.
2. Strategical lines.

It is the former only which need concern us seriously at present, since in any great war conducted in a territory inhabited by civilized people, the problem of constructing permanent or semi-permanent lines to follow the larger units of a moving army is one which is easily met by utilizing and adapting commercial lines already at hand, through the service of either regular signal troops, volunteer signal troops, or by civilian contract labor.

Tactical lines of information, by definition, refer to lines constructed and operated in the presence of the enemy. Here is the task to which the signal officer must devote his closest attention.

In the construction of tactical lines of information the prime requisites are:

(*a*) Certainty of operation.

(*b*) Extreme mobility.

If we are to succeed in war the Signal Corps must construct field lines which are so reliable and certain in action as to inspire and insure the complete confidence of the line of the army which is to depend upon them. The equipment must also be so mobile as to provide a field telegraph station by the side of the commander wherever he may be required to go in the exercise of his duties. This simply means that we must abandon the present cumbersome lance trucks and use a pliable, well insulated wire of great tensile strength, paid out directly on the ground.

Professor Morse originally elevated his wires on poles because commercial insulated wire had not been invented, and

because he used for the operation of his instruments a low potential battery.

From an engineering standpoint this problem of delivering at the extremity of a transmission line, of any length required in war, the minute fraction of a horse-power of electrical energy necessary to operate the present field buzzer is not difficult. In fact, hundreds of horse-power are transmitted daily in the operation of electric street railways by insulated trolley wires placed even beneath the surface of the earth. A few years ago these trolley wires were also elevated on poles. It is simply a matter of relative insulation and potential.

From a military standpoint the immense advantages to be gained in dispensing with the materiel and personnel for pole construction of whatever sort must be apparent. In fact, the commanding officer at present unconsciously pictures to himself, when considering field lines, the comparatively complicated equipment which was used in the Civil War and known as the "Flying Field Telegraph Train." When he learns that one single, substantial field wire wagon which automatically pays out and reels up a strong, insulated steel wire at any gait up to a fast trot, and which is operated by a personnel every man of which is mounted either on a horse or the wagon and which furnishes him with reliable telegraphic or telephonic communication wherever he chooses to go with his command, he will positively demand this service for all of his field operations.

He learns that his field wire is automatically maintained without specific orders, on the same principle that a railroad track is maintained by the use of section bosses. He learns that the wire trailing behind his command is placed in a concealed position by mounted men equipped with light pikes for this work, who also keep up with his command. In fact, he learns that the enemy's raiding cavalry attempting to cut his lines, no longer finds them conspicuously on poles inviting destruction.

The tactical field-wire train in use at the U. S. Signal School has been reorgangized as follows:

Capacity of train, sixty miles of field wire.

Four (4) sections of fifteen miles each (one day's march of a division).

Each section consists of but one wire wagon, with equipment for four buzzer stations, complete; total capacity of train, sixteen buzzer stations.

Personnel of each section, twelve men. Of these men all are mounted but two; these latter ride on the wagon.

Total personnel of train, fifty men.

Each individual man, although permanently assigned to a section and having certain definite duties and responsibilities therein, is trained to fill any position in his section.

The above field-wire equipment is supplemented by a buzzer-wire and visual equipment for each section, for use when required for lines subsidiary to the main lines. The buzzer wire is a light steel wire weighing about five pounds to the half-mile coil, and can be easily paid out or reeled up by a mounted man at a trot.

RIFLE ON HORSEBACK.

As many readers of the JOURNAL are still considering the subject of carrying the rifle and how the saddle should be packed, we reprint the article as headed above, which appeared in the last JOURNAL from Major J. G. Galbraith. Two corrections are made in the print as follows: The expression "pack saddle" should read packed saddle, and the "blanket bag" should read barrack bag.

Major Galbraith has added in a late letter to us the following:

I have no opportunity to experiment with the new rifle. I have a notion that the attachment in front of the pommel could be designed by a mechanical expert in such a fashion that the rifle could be clamped in any position at almost any angle. There is a shoulder in front of the pommel which would afford a secure base for the attachment which might

be of a ball and socket or of a swivel pattern. I think we try to carry too many things on the packed saddle; but the rifle has to be carried somehow.

I have no great amount of confidence in the following, but I have not yet seen any unassailable solution of the Rhodes problem. ("Cavalry Equipment," the JOURNAL, April, 1906.)

"I have known of a troop of cavalry carrying the carbine balanced on the pommel through an Indian campaign of several months; and I have seen frontiersmen carry a long tom in some such way.

The following is a mere suggestion:

Rifle balanced on pommel, held by a steel grip or frog, butt to the left and depressed until muzzle is elevated to an angle of about 45 degrees; axis of barrel perpendicular to axis of horse.

Lariat fastened to the near pommel ring. Canteen fastened to the off pommel ring. Saber suspended from near cantle ring by means of a loop (as is done in the French cavalry).

Nosebag suspended from the off cantle ring. Tin cup in nosebag or on canteen strap. An extra bandolier of ammunition may be carried in the nosebag.

Overcoat, or slicker, or cape, or poncho, or blanket, carried on cantle with shelter half.

Shelter pole and pins may be carried in nosebag or packed with cantle roll.

Weights in saddle bag distributed so as to balance the packed saddle.

Half ration of grain may be carried in nosebag.

Haversack to be carried by trooper when cut loose from transportation. Also useful for dismounted service and travel by rail. Ordinarily on marches the haversack (and barrack bag) with spare clothing, etc., will be carried on wagons or pack animals."

J. G. GALBRAITH,
Major of Cavalry.

CAVALRY AND MOUNTED INFANTRY.

LIEUTENANT-GENERAL SIR JOHN FRENCH presided, on the 22d inst., at the Royal United Service Institution, when Brigadier-General E. C. Bethune read a paper on "The Uses of Cavalry and Mounted Infantry in Modern Warfare." The lecturer said unfortunately no campaigns of late had thrown very much light on the question of the utility of cavalry in war under modern conditions, but a careful study of them would show that many opportunities were missed for cavalry action which, if taken full advantage of, might have had far-reaching results. There was not sufficient cavalry in our army, and therefore it must be supplemented by mounted infantry. In his opinion mounted infantry should be a source of strength to the cavalry, rendering a combination of the two with horse artillery an independent fighting force. The duties of cavalry were four fold —to cover the front and flanks of the army with an impenetrable screen; their scouting must be energetic and bold even to rashness. Secondly, they must have such cohesion and discipline that on occasion they would be able to make use of shock tactics if the opportunity presented itself. Thirdly, there should be sufficient cavalry to operate in large bodies wide on the flanks, to threaten the flanks and rear of the enemy. Fourthly, there must be cavalry fresh and ready to pursue the enemy if defeated. There must be sufficient cavalry, under an independent leader, to carry out those duties, the screening duties of the main army being carried out by a force specially detailed, and the remainder forming part of the mobile troops, whose duties would be to threaten the enemy's flanks and rear and force their way through the opposing cavalry, and so discover the secrets that lay behind. Cavalry leaders must be good horsemen, have a quick eye for country, and be confident in themselves and their troops. They must be thinkers, and know the strategical work that lay before the hostile army as well as before their own. The cavalry soldier must be taught, and must thoroughly believe, that he was most effective when on

his horse and armed with the *arme blanche*. Whether the lance or sword was to be the principal weapon of shock action was a question that could only be decided by actual experience in war. Personally, he thought that the lance was far superior to the sword, both in its moral effect and actual effect. Its only drawback, of course, was that for dismounted work it was in the way. The training of the mounted infantryman should be the same as that of the infantry, but he must be taught to ride, look after his horse, and perform scouting duties. The uses of mounted infantry were threefold; to form a mobile reserve for the main army, to supplement and support the independent cavalry, and to be able to take over the screening duties at a pinch. The mounted infantry soldier had a complete knowledge of infantry fighting; what he needed to practice was to get a more extended view of the military situation. The *role* of cavalry was, in his opinion, enormously strengthened by the support which it would get from the mounted infantry on wide operations, and working in conjunction with it we should have an incalculable advantage over the cavalry of any other nation.

In the discussion that followed, Major General Sir Edward Hutton said there are those who believe that shock tactics on the field of battle are no longer possible for cavalry. To such he would ask whether the lessons taught during the following wars were not of some special significance—wars fought under modern conditions, with breech-loading weapons and machine-guns: The Zulu War of 1879, at Isandlhwana, Kambula, Ginginhlovo, and Ulundi; the Afghan War of 1878–9, at Ahmed Kehl; and the Soudan Campaigns of 1884–85, at El Teb, Tamai, Abou Klea, and El Gubat. Could it be denied that a resolute, well-equipped cavalry was futile for shock purposes on a modern field of battle, in spite of the knowledge and experience that even savages with spears and shields had broken squares unshaken by a long drawn out preliminary fight, untouched by shrapnel or by rifle fire? In the Russo-Japanese War the bayonet charge had been repeatedly resorted to, and hand-to-hand fighting had, as in the days of old Brown Bess, upon numerous occasions decided the final issue of a fight. He

thought it was not unreasonable to argue that the sudden onslaught of a well-led body of horsemen upon artillery or infantry, worn out with a long drawn fight, and exhausted by losses, would prove decisive. If the Russian cavalry effected little in the late war, it was, he thought, because it was ill equipped, ill trained, and badly led. If the Japanese cavalry failed it was from want of numbers, absence of machine-guns and horse artillery, and ineptitude of horsemen. He was one of those who deprecated the present tendency of making our cavalry rely mainly upon their fire power, and to trust to dismounted action for their success in the field of battle. Initiative and enterprise must now, as ever, be the life and soul of a sound cavalry. This cannot be attained by impressing the cavalry soldier with the fact that he is useless for offensive purposes unless on his feet. He ventured to express the hope that the near future would see an expansion of cavalry by the increase from three to four squadrons per regiment, but without increase of horses (each squadron being thus dismounted for three months in the year, during which it would do musketry, foot drill and take its furlough), and that a cavalry school of tactics and strategy may ere long be established. He believed that the important part to be played by mounted troops in modern war had yet to be realised. The first great leader of cavalry who was given the means and had the opportunity of combining "shock" with "fire power" in right proportions, would do little less than revolutionise existing theories of war.

General French said that the value of cavalry, trained as it now was, could not be doubted, and he held such a high opinion of the value of mounted infantry that every mounted infantryman in the Aldershot Army Corps was mobilized once a year to the number of about 3,000. The lecturer had had a great experience of cavalry, infantry, and mounted infantry, and no better answer could be given to the false theories and ideas which had been so freely expressed in the past than in the skillful, temperate, sound, and soldierlike manner in which he had dealt with the whole question. It had given him great pleasure to find that the lecturer gave

such prominence to the study of the higher art of war by cavalry soldiers. They must, the lecturer had said, be able to read the symptoms which revealed themselves of the hostile movements, visible or semi-visible in the fog of war; they must be students and thinkers, and, in fact, strategists of the highest order. But he would go one further, and say that both cavalry and mounted infantry in the exercise of the most brilliant *rôle* which could fall to the soldier's lot must also be tacticians. When the enemy's cavalry had been overthrown and was prevented from interfering with their enterprises a vast field was opened to them, but to know how to turn their opportunities to the best account they must thoroughly understand the combined action of the three arms on the field of battle. Particularly as regarded mounted infantry the lecturer had assigned to them as their first duty the formation of a mobile reserve for the general officer in chief command, who could apply them quickly at any given spot during the fight. That was no doubt their chief and principal use, and it was unnecessary to lay stress on the necessity for the leader of such a force being possessed of high tactical efficiency.—*Broad Arrow.*

UNITED SERVICE CLUB.

SIMLA, INDIA, August 8, 1906.

The Editor U. S. Cavalry Journal:

DEAR SIR:—I note in the July issue of the United States Cavalry Association JOURNAL an article on the Pieper Aiming Device, used by the U. S. Ordnance Department.

I consider this a most interesting invention, and though perhaps small and simple of its kind, is highly scientific. I would be very glad to obtain one and write to ask if you will kindly forward me the name of some store or manufacturing house where I could buy one, also the price if you happen to know it, so that I may forward cash with order.

Hoping you will excuse my troubling you, I remain,

Very faithfully yours,

KENNEDY BERESFORD,
Major, Royal Irish Rifles.

ATHLETICS AT MANEUVER CAMPS.

HEADQUARTERS PROVISIONAL DIVISION,
CAMP OF INSTRUCTION NEAR FORT D. A. RUSSEL, WY.

CIRCULAR, No. 13. August 28, 1906.

I. The following programme of athletic sports and exercises is announced for the command:

For Saturday, September 1, 1906: 100 yard dash; shoe race; potato race; tug of war; mounted rescue race; obstacle race; 120 yard hurdle race; wall scaling; 400 yard relay race. (4 men).

For Saturday, September 8, 1906: Finals for 100 yard dash; tug of war; hurdle race; 400 yard relay race; potato race; sack race.

Artillery driving contest. (Details to be arranged by the commanding officer, field artillery battalion).

The afternoons of September 4, 6 and 11 will be devoted to base ball.

The rules of the Amateur Athletic Union will govern in athletic contests, and Spaulding's Official Base Ball Guide shall be taken as the standard in base ball games.

Each company, troop and battery will be required to enter one contestant in each individual event and will be allowed to enter one team in each team event. No company, troop or battery shall enter more than one team in each team event. All members of any one team shall be from the same company, troop or battery, and all detachments shall be considered as separate organizations.

The names of all contestants will be given to Captain George P. White, Sixth Cavalry, before 6 o'clock p. m. the 30th of August, 1906.

The following events will be known as Exhibition Events for which prizes, but no points will be awarded:

Wall scaling contest (for infantry only), mounted rescue race (for cavalry only), artillery driving contest (for artillery only).

For all contests, except Exhibition Events, the organization or individual winning will be credited with five points;

those second with three points, and those third with one point.

II. Regulations for Athletic Events and Exercises:

Obstacle race: Obstacles to be unknown until the morning of the contest.

Potato race: Contestants will be required to place six potatoes in a basket at the starting point. The first potato will be placed five yards from the starting point; the remainder spaced five yards from the first. All potatoes of winning contestant must be in his bucket at the completion of the race.

Relay race (4 men): The starter will run from scratch to 100 yard mark, pass a handkerchief to a second man, who will run back to the scratch, passing it to the third man, etc. Each contestant will toe a line and will not start until the handkerchief is passed to him.

One hundred and twenty yard hurdle race: Three foot hurdles will be used.

Shoe race: For each contestant a pair of shoes with the number of the contestant chalked on each sole, will be placed in a pile twenty-five yards from the starting point. The winner must secure his shoes, put on and properly lace them and return to starting point.

Sack race: Sacks will be furnished under direction of the officer in charge. The distance will be 100 yards.

Tug of War: Each regiment or part of regiment at this camp, and the artillery battalion, will furnish a representative company, troop or battery team to represent the regiment or battalion, all the members of which shall be from one company, troop or battery. After the two contesting teams are in position for the pull, they will be allowed five minutes to prepare ground for position. No tools or implements will be allowed to assist them in this preparation. The winning team will be required to pull their adversary toward their side for a distance of five yards, shown by the center of the rope, or to have the advantage at the end of three minutes from start. Each team will be composed of one captain and eight men. No gloves will be allowed in this contest.

REGULATIONS FOR EXHIBITION EVENTS.

Wall Scaling Contest: One corporal or sergeant and seven men. Uniforms will be full field equipment except ball ammunition, and arms will be carried. Rifle will be loaded with five blank cartridges and locked. The squad will start at a point twenty-five yards from a ten foot wall, climb wall, run twenty-five yards to a finish. Each member will fire five shots. Time will be taken from start till the last man has finished firing his five blank cartridges.

Mounted Rescue Race: Team of two men. Equipment in khaki or olive drab with service hat. Arms—rifle and pistol. Distance between No. 1 and No. 2, 200 yards. No. 1 at starting point (mounted). No. 2 at 200 yard mark (dismounted); No. 1 has pistol loaded with five blank cartridges; No. 2 has rifle loaded with five blank cartridges. At signal for start, No. 1 rides toward No. 2, firing his five blank cartridges from revolver. No. 2 at signal for start fires five shots from rifle and runs toward No. 1 who is coming to his rescue. No. 2 mounts behind No. 1 and both return to starting point.

REGULATIONS FOR BASEBALL CHAMPIONSHIP.

Each regiment or part of regiment present at this camp and the artillery battalion shall have the right to select a company, troop or battery team to represent the regiment or battalion in a series of games for baseball championship, provided that when a company, troop or battery team is selected, every member of said team shall be from one company or battery. The championship will be determined by games between the representative regimental or battalion teams played on the afternoons of September 4th, 6th and 11th, on a schedule to be arranged by the athletic committee.

The following officers are announced as officials for the contests set forth above:

Officer in charge: Captain George P. White, Sixth Cavalry.

Judges: Captain B. H. Wells, Twenty-ninth Infantry; Captain A. G. Lott, Sixth Cavalry; Captain T. E. Merrill, Artillery Corps.

Timekeepers: Captain L. B. Kromer, Tenth Cavalry; First Lieutenant R. P. Rifenberick, Twenty-ninth Infantry; Second Lieutenant C. T. Smart, Artillery Corps.

Clerk of the course: Captain H. O. Williard, Fifth Cavalry.

Assistant: First Lieutenant G. H. Williams, Twenty-eighth Infantry.

Starter: Captain J. H. Straat, Twenty-ninth Infantry.

The officer in charge will have charge of preparing the Tenth Cavalry field for athletic event and exercises, and will be assisted by the following officers who will report to him for this duty.

Second Lieutenant William F. Wheatley, Fifth Cavalry; Second Lieutenant Oscar Foley, Sixth Cavalry; Second Lieutenant Robert Blaine, Tenth Cavalry.

It is recommended that each company, troop or battery contribute five dollars ($5) to create a fund to provide suitable prizes and trophies for the winners of the various contests. This amount should be deposited with the officer in charge at the time the list of contestants is handed him.

Uniform: For all events, save exhibition events, any suitable costume may be worn; in exhibition events, the uniform will be prescribed in the regulation for that event.

Exercises scheduled for Saturday will commence at 9:00 A. M.

III. The athletic committee appointed by memorandum from this office, dated August 13, 1906, is charged with the assigning of prizes or trophies, and fixing the amount of the former, the appointment of umpires and referees, and the decision of any point arising on the field not covered by these instructions.

By command of Brigadier General Williams:

S. D. STURGIS,
Captain, Artillery Corps,
Chief of Staff.

Official:

JOHN F. MADDEN,
Captain, Twenty-ninth Infantry,
Military Secretary.

Editor's Table.

ELIMINATION.

We had occasion not long since to lay before our readers our views upon the subject of promotion. These views remain unchanged, and we are glad to see one of our prominent ideas is now being put into practice. We do not flatter ourselves in the slightest degree that we were the cause of this action on the part of the War Department, but there is a feeling of self-satisfaction in knowing that we are in accord with the powers that be. We are now referring to the permanent examining boards. Our comments upon this subject in the April number of this year, were of some length, and the reasons there given were sufficient, it is believed, to convince the most incredulous of the desirability of permanent boards for the different arms.

But there is this to remember about our permanent boards. If any good is to come from their existence their actions must be controlled absolutely and entirely by justice. Justice has no heart, only brain. Merciful dictates of a humane heart in any member of an examining board will vitiate its work and render it a worthless institution.

It will be a disagreeable duty, this being a member of a permanent examining board. There are only a few officers scattered throughout the service qualified to act. But these few are plenty. And for the future of the army let us have them.

It has been intimated that there is a dearth of work for our major-generals. We do not believe this, but in this connection we will say that a major-general at the head of each examining board (cavalry, artillery and infantry) will be as good a

thing for the service as could happen. It would be a gigantic display sign to the army at large that business is now really meant and that the weeding out is now to begin; that an officer's record and professional zeal and ability are the only passwords to promotion; that the fact of being a nice man or one with a large family cuts no figure whatever.

We have not a large personal acquaintance with the members of the boards already appointed. We trust, however, that they realize their responsibility. We all realize that there are officers in the service, that it were wise to replace by shavetails and take our chances on the latter. And we are all aware that stagnation in any business kills.

We can feel assured that unless the army does purge itself of worthless matter, elimination and selection will later come in such drastic form as to shake the very existence of the army. As THE JOURNAL has stated, medicine is going to be applied for stagnated conditions. We had better administer it ourselves instead of waiting for a consultation of surgeons in Congress who may direct a knife that cuts to our very vitals.

THE PRIZE ESSAY.

THE essay appearing in this issue on "The Cavalry with the Federal Armies in the West," marks the passing of the prize essay as far as the Cavalry JOURNAL is concerned. Like the Roman galley, the prize essay belongs to a past age. It is true that the essays are of use in many particulars, but to the readers of the Cavalry JOURNAL they are no longer of such moment as to take the space formerly allotted them. This is no reflection on the essays that have been given. But in the renaissance of military activity in our army, up-to-date subjects are demanding our attention. The idea of obtaining a history of the American Cavalry through the medium of the JOURNAL was excellent. And before the Spanish war, time spent on this subject was well employed. But to-day we are living rapidly, even in the conservative profession of the soldier. We must have in

our journals, if they are to keep pace with the times, short, pithy articles, so that he who runs may read, and reading derive benefit therefrom. It is now believed to be the province of the JOURNAL to devote its pages to such work rather than to histories of the past.

So we have determined to take the money heretofore given for prize essays and distribute it among the contributors of the JOURNAL, and whether the articles contributed be long or short, whether they be contributed with the idea of reward or not, all original articles appearing in the JOURNAL will be carefully considered and the best paid for in accordance with our means. The paid contributions shall as stated before in the JOURNAL, be determined by the Executive Council, and timeliness of topic and good sense shall be the guiding principles of the decisions, followed later by literary merit and other considerations of less importance.

Moreover, the JOURNAL has started, in its prize problems, what may later develop into a correspondence school of military art. A careful study of these problems and their solutions will be worth any officer's time.

In this connection we publish here a list of the prize contributors to the Cavalry JOURNAL and the subjects upon which they wrote. We shall in the near future engrave a paper, something in the nature of a diploma, and forward each of these officers as a testimonal that they were the winners of the contest and of the esteem of the JOURNAL.

The History of The Cavalry of the Potomac including that of the Army of Virginia (Pope's), and also The History of the Operations of the Federal Cavalry in West Virginia During the War. By First Lieutenant Charles D. Rhodes, Sixth Cavalry, March, 1898.

The History of the Cavalry of the Army of Northern Virginia. By Captain James G. Harbord, Eleventh Cavalry, January, 1904.

The Federal Cavalry With the Armies in the West 1861–1865. By Captain E. R. Stuart, Corps of Engineers, October, 1906.

THE PANAMA CANAL.

The curious American people always are finding new things to speculate about. Much time is spent in America over the doings of our ex-presidents and what constitutes agreeable and distinguished work for them.

As far as work is concerned, good honest effort of any kind is distinguished enough for anyone. There can be no reason why America should not have her Cincinnati as well as the ancient republic.

But when we find a president who voluntarily relinquished the idea of longer continuance in the curule chair, and one of such pre-eminent abilities as the present incumbent, and when we find almost the greatest work of the world at his very elbow, speculative minds are apt to connect the two. Not long since in any army mess an officer vouchsafed the idea that when President Roosevelt retired from the presidency it would be well to give him the task of building the Panama Canal. The unanimity of opinion displayed was remarkable for an army mess. But the idea was so happy that no one could dissent.

And is this an undertaking of a scope and magnitude befitting the position and dignity of one who has been President of the United States? Surely it is a labor worthy the ambition of any man. For not only is the work itself gigantic, but its consequences will shape the destinies of nations yet to come.

There have been many people on this earth and many rulers, the endless flow of whose successors ever crowds them deeper into oblivion. There is but one Panama Canal. The man who builds it has no successor.

We took occasion to remark shortly after the Wallace defection, that in case the committee then appointed should prove unable to complete the task, (which might happen only through sickness or death of the members), it would be wise to turn the canal over to the Engineer Corps of the army. They never have yet failed in any task assigned them and their record is singularly free from charges of corruption, only one serious scandal marring it. The

amounts of money saved the government by this body of men can never be known, even though much of their work has been connected with the improvement of our rivers and harbors, which is supposed to be the greatest of all means of of mulcting the Federal Government.

Our recommendation as to their ability to finish the canal still stands. But they are not well known to the country at large. They are a retiring set of men, not in the lime light of public opinion. And heavy expenditures, advised by them, needful as all know them to be, might call forth criticism and complaining from the press.

But with Theodore Roosevelt in charge of the canal, the people would feel, on account of their knowledge of the man, that the canal would be as expeditiously and economically built as possible. Aside from the tremendous energy of this man, the people's belief in his honesty would be a most helpful factor. His acts would be accepted with smaller questioning as to the advisability thereof than those of any other man or set of men in the world. And we may feel assured that a man who has attained his prominence, who has so long held the respect and esteem of the whole American people, who can with the turn of the pen rejuvenate the language of Shakespeare, certainly can dig a ditch.

But whether the present committee continues (with a suitable replacement of the member soon to be civil governor of the Philippines), whether the work is given to the army, or whether Theodore Roosevelt is called to the task, we are fully convinced that it will not be many years before ships are passing from ocean to ocean by means other than those of Cape Horn and the Northwest Passage.

BOOKS ON THE RUSSO-JAPANESE WAR.

AS stated in our last issue, we reserved notice of Sir Ian Hamilton's book on the war, "A Staff Officer's Scrap Book." After reading this work we are satisfied to give the following opinion concerning it:

People should be careful to read the preface to a book, as it frequently gives one an idea of the author that a perusal

of the volume might not do. General Hamilton is quite happy in his preface and one point he brings to notice that all know but we have seldom seen it put in such clever language. In speaking of military history always being misleading to some extent, the general has the following to say:

"If facts are hurriedly issued, fresh from the mint of battle, they cannot be expected to supply an account which is either well balanced or exhaustive. On the other hand, it is equally certain that, when once the fight has been fairly won or lost, it is the tendency of all ranks to combine and recast the story of their achievement into a shape which shall satisfy the susceptibilities of national and regimental vainglory. It is then already too late for the painstaking historian to set to work. He may record the orders given and the movements which ensued, and he may build up thereon any ingenious theories which may occur to him; but to hopes and fears which dictated those orders, and to the spirit and method in which those movements were executed, he has forever lost the clue. On the actual day of battle naked truths may be picked up for the asking; by the following morning they have already begun to get into their uniforms."

This preface is followed by a heading opposite Chapter I, by W. E Henley that "One eye-witness, however dull and prejudiced, is worth a wilderness of sentimental historians."

This statement of Henley's is positively correct, but one part of it does not apply to the general's book, for his work is far from dull. We cannot say that it is so far removed from prejudice, for his artillery leaning causes him to misunderstand many valuable chances for cavalry action where the voluble general will not allow the same, or in many instances will pass over without any remarks as to the advantage of good cavalry at such a point. However, this is his only prejudice that is very apparent and taking it but as the vagaries of one not trained to know the exact work of good cavalry, we are disposed to overlook it.

Chapter I gives simply the old stereotyped subject of first impressions of Japan, expressed somewhat better and with more cleverness than they are expressed by the ordinary

globe trotter. However, in this chapter he gives voice to a belief "that up to-date civilization is becoming less and less capable of conforming to the standard of military virtue, and that the hour is at hand when the modern world must begin to modify its ideals, or prepare to go down before some more natural less complex nervous type. As the author states, the city-bred dollar hunters are becoming less and less capable of coping with such adversaries as Deerslayer and his clan." This idea is nothing new. Every officer that has had any recruits to drill in the American army during the last twenty years knows that our citizens are no longer the natural soldiers they were. Time was when the average American was a rifleman, when hardly a citizen could be found that was not familiar with the musket, but those times have vanished into the past. Our recruits to-day are most lamentably unfamiliar with firearms of any kind, and teaching them these essentials of military knowledge takes up most of the time of training. Of course there is no help for this and careful preparation of the soldier must make up this early lack of knowing how to shoot.

The author pays his respects in a humble paragraph to the confidence trick games of the Hague Peace Conference, and to speak truly, a paragraph is more than such visionary schemes deserve, if we expect from such conferences international disarmament.

The author also gives his idea in this first general chapter that education in Japan is far ahead of its state in England, and that the thirst for knowledge on the part of the Japanese is most remarkable while there is very little of it in the United Kingdom, except possibly in some small degree with Scotch lads. From Lafcadio Herne's opinion of the Japanese we drew our belief that the Japanese cared more for knowledge for knowledge's sake than any other class of people. Our American idea, if we follow Mr. Schwab and others that think college life superfluous, is that knowledge is of account only when it enables its possessor to turn out dollars faster than he would without it.

In Chapter II we have General Hamilton's impressions and beliefs concerning the leading men of Japan. This is

of course interesting as an individual opinion, but that is all. We were quite laughably struck by one expression in this chapter and that was with regard to the poetry of the Japanese. It seems that in the Chinese War, Oyama ordered the planting of a cherry tree (Japan will have its cherry tree tradition some hundred years hence) at Kinchow to commemorate the engagement there, and then he ordered each of his staff to write a poem celebrating the occasion. The author states that the old idea of associating the poetic and military arts has not yet disappeared from Japan. But to tell the Anglo Saxon that a man writes poetry gives another idea than a military one. The laughable part of this is that we had heard how the Japs had sized up General Hamilton before we had read his book. It is related that one of the leading Japanese generals, on being asked what he thought of General Hamilton, replied: "Well, the general is a good poet." Viewed from the standpoint of how the Japanese regard poetry, as stated by the author, it may be the remark was intended to be most complimentary. But, as Carlyle says, But—

The first chapter of much importance to the military student is Chapter 6, The Position on the Yalu. This is a long chapter and contains much matter besides the giving of the positions. For instance here he speaks of the strength of the Russian forces at the outbreak of hostilities. We quote the following from this chapter: "I had been a few weeks at Tokio when I was specially privileged at an interview lasting several hours, to hear from the lips of a very great man what purported to be an exact account of the strength of the Russian forces. This account, technically called a distribution statement, gave the station and actual strength of every Russian unit east of Lake Baikal. It was for the month of October, 1903, and there was also a supplementary document, showing in detail the number of additional men, guns and horses which had arrived on the scene of operations between that period and the end of January, 1904. I was surprised, not only at the masses of professedly precise figures which had been got together, but at the formidable strength of the Russians. There were supposed to

be 180 full battalions of infantry, and with cavalry, artillery and engineers the total of the Russian forces in Manchuria came approximately to 200,000 men. I asked if I might communicate his long statement, and I was told I might do so as a very special mark of favor and of trust. Home went the statement, but unfortunately, later I ascertained that it was entirely misleading. I now know that at the time I fondly imagined I was being taken into the confidence of the highest authorities, the Japanese in the field knew well that the whole mobile field army at the command of the Russian Generalissimo would barely amount to 80,000 men by the 1st of May, All is fair in love and war, and it is something even to have gained the experience that the Japanese trust nobody."

The author's idea of Kuropatkin being handicapped by control from the government at home is as follows: "To the strategist, indeed, the difficulty of grasping the scope of Kuropatkin's scheme lies, not so much in accounting for his having sent so few men to the Yalu as in satisfactorily comprehending why he sent so many. No doubt it was highly desirable from the Russian military point of view, to deny Manchuria's soil for as long as possible to the Japanese, not only on account of prestige but also because every day gained meant the advent of increased munitions and reinforcements by the Trans-Siberian railway. [But a retarding force of Cossacks, mounted infantry and horse artillery, such as ought to have been operating in Northern Korea during the months of March and April, might have done this without running too much risk, whilst infantry and field guns mean serious fighting, and if their numbers are insufficient they are very likely to get caught.

This brings me to my second point: Why did Kuropatkin send Sassulitch to Fenghuangcheng with a force too small to fight effectively, too big and too immobile to extricate itself creditably, when once it had come into contact with the enemy's superior forces?

If in private life a sober, quiet individual upsets all previous estimates of his character by marrying his cook, it is not necessary to say *cherchez la femme*, because she stands

there as big as life. Where a gross and palpable blunder in elementary strategy is made by a general of repute it should be equally unnecessary nowadays to seek for the statesman who is usually quite apparent. It is difficult no doubt, for a ruler of any sort to restrain himself from interference with his instruments. Thus, in the old days, theologians having the power, used it for the purpose of routing the ungodly, as at Dunbar and many other places, where the result was good for the ungodly. Still the church could at least sometimes inspire the soldiery with individual fanaticism which might compensate for much bad direction. *Per contra*, the statesman has nothing in his gift but disaster as soon as he leaves his own business of creating or obviating wars, and endeavors to conduct them. The American war, for instance, was a war where the feebly timirous civilian strategy of the federals was a perpetual and never failing standby to its weaker adversary, whilst the greatest victory the North ever scored was when Jefferson Davis took a leaf out of Lincoln's book, and had the ineptitude to replace that competent, sagacious, careful commander, Joseph E. Johnston, by a mere thrusting divisional general, infinitely his inferior in all the higher attributes of generalship." Let the reader ponder over this lesson.

Of course the opinions quoted above are but those of a private individual. But considering General Hamilton's rank and the British Japanese alliance, we may suppose his opportunities for observation were greater than those of any foreigner accompanying the Japanese armies. We believe, from reading his book, that he used these opportunities to advantage, and while we think him rather narrow minded as regards the possibilities of his favorite arm, the artillery, and prone to belittle the importance of the other arms, especially the cavalry, yet, as a whole, we are favorably impressed with his work.

The book will be exceptionally good for the general reader, the author's humor and keen appreciation of his position being most pleasing. It is a very good work for the company officer, for we find much more about the smaller

Japanese units, such as the company and small patrols, than we find in any other work on the war.

Speaking of the preparedness of the Japanese for the war the author has the following to say of the Battle of the Yalu: "The plan of battle was arranged long before the army left Japan. It was even settled that the Twelfth Division on the right should advance through the mountainous triangle between the Yalu and Aiho and turn the enemy's left; although the sweep of this turning movement, and whether it should keep touch with the rest of the army or work clear of it down the Kuantienchen road, was left to be decided on the spot. No doubt the Japanese had alternative plans, but their main plan, the plan most carefully studied and relied upon, was brought with them from Japan and put into execution without essential modification on May 1st. The rear guard action of Hamaton was of course unforseen and is therefore the more interesting military operation of the two, as extempore effort makes demands of a very different order from those which are employed in elaborate and studious preparations."

This reminds one of Von Moltke, on being told of the action of the French Government precipitating war, reaching into the fourth pigeon hole, third tier, and spreading upon the desk the map of the on-coming Franco-Prussian war.

The following chapters are the only ones of interest to military students:

Chapter 6, The position on the Yalu.
Chapter 7, The Battle of the Yalu.
Chapter 13, An Affair of Outposts.
Chapter 14, The Battle of the Heaven-reaching Pass.
Chapter 15, Chaotao.
Chapter 17, The Battle of Yoshirei.
Chapter 18, The Disastrous Retreat from Penlin.

The last two chapters are worth study and thought. They are well told and accompanied by plain maps. These two chapters alone make the book worth buying. In reading them we are led to believe that luck was with the Japs. These chapters give the lie to the oft repeated statement

that the Japanese took no chances. Our space is too limited to go into any description of this battle between Count Kellar and Kuroki, but we recommend this description of Hamilton's to students of battles and campaigns.

As we say, these last two chapters make the book worth while, but the giving of details of small parties add greatly to the value of the work, especially, as we have already said, to the commanders of small units. The book is worth the price and should be carefully read by our officers. The JOURNAL adds it to its list, which is still quite small. While there are many people that are not favorably impressed with the work we believe there are many phases of the war that will be entirely new to readers and students.

In hastily running over the ideas that struck us the most forcibly in the book we believe the prominent ones are that the Japanese are far from being as infallible as we were led to expect from their uniform victories; that the Russians not being successful at times can be explained in no other way than in believing their accredited stolidity or even stupidity to be true and coupling with this an almost complete loss of morale in the latter stages of the war among the brigade and division commanders. At the present writing it would seem there is a lull in the book producing business upon the subject of the late war. We know of no works other than those already reviewed in the pages of the JOURNAL that call for special mention, nor do we know of any soon to be produced.

As a closing word on the Russo-Japanese War we wish to call attention again to the Wizard of the Rail, Prince Khilkoff. This magician waved his wand over the slender thread of Russian communications, thousands of miles long, and threw into the Far East reinforements in sufficient strength to enable Kuropatkin to confront the Japanese at the last struggle with an equal number of men. Moreover, the Russian commander, though continually forced back, was never seriously in danger. There never was a time when Oyama was anywhere near crushing Kuropatkin, and the Japanese never had the least chance of capturing a Russian army. True, Port Arthur, foredoomed, fell, and the House of Cards, known as the Russian Navy, totally collapsed. But

at the last great battle the Russians confronted the Japanese with equal chances, and a defeat led only to an orderly retreat. We cannot see that the Russian army had much to dread from a further continuance of the war.

The JOURNAL's list of specially recommended book upon the late war is as follows:

On the causes:

"The Russo-Japanese Conflict." (Asakawa).

On the War:

"From the Yalu to Port Arthur." (Wood).

"The War in the Far East." (The military correspondent of the *Times*).

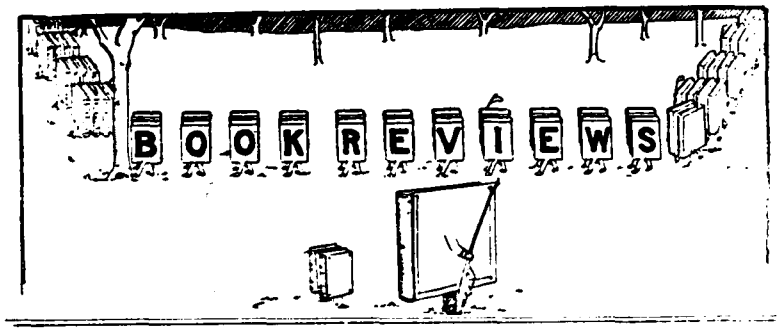
"A Staff Officer's Scrap book." (Hamilton).

Articles in *The Outlook*. (Kennan).

For comparison:

"The China–Japan War." (Vladimir).

The Outlook has not as yet published Kennan's article in book form. All the above have been carefully reviewed in the JOURNAL. Asakawa's book can be purchased from Houghton, Mifflin & Co., for $2.00; Wood's and Vladimir's from The Hudson Press, Kansas City, Mo., for $1.50 each; "The War in the Far East" from E. P. Dutton & Co., New York, for $5.00; and Hamilton's book from Longmans, Green & Co., New York, for $4.50.



The Private Soldier under Washington.*

Mr. Bolton is certainly to be congratulated on a very interesting work. He has amassed a wealth of detail and presented it in a very striking manner. The contents are as follows:

The Origin of the Army.
Maintaining the Forces.
Material Needs.
Firelock and Powder.
Officer and Private.
Camp Duties.
Camp Diversions.
Hospital and Prison Ships.
The Army in Motion.
The Private Himself.

The author does not ask one to take his statements unattested. He has gone to contemporary records of all kinds, memoirs, travels, correspondence, State papers, soldier's diaries, and all the possible sources that could give reliable information about his subject. To army officers this book is very valuable. It being our duty to handle the private of to-day

*"THE PRIVATE SOLDIER UNDER WASHINGTON." By Charles Knowles Bolton, Librarian of the Boston Athenaeum. Illustrated, 12 mo. 358 pages, including index. Price, $1.25. Charles Scribner's Sons, New York.

we should know his history and know what sort of a man he was in the birth days of the nation. This book should be owned by every officer in the service and there should be a copy of it in every organization library throughout the army. It would be a very popular book with the enlisted men.

All little details that trouble the troop and company commanders to-day we find troubling the officers of the Revolution. The wonder of it is that with their much greater difficulties they ever succeeded at all. We quit the book only at the very end and our admiration for the suffering private of, not only Valley Forge, but the entire war, is greatly increased. The troubles of all, from the Continental Congress down through all the officers, particularly the recruiting officers, seem at this day unsurmountable. The whole work speaks volumes for the tried and true men of those early days.

The publishers made a special price during the early part of this year of 60 cents but now have advanced the book to its old price, $1.25. It is well worth anyone's money and particularly that of the present day army man.

Suggestions to Military Riflemen.*

Lieutenant Whelen is to be congratulated in giving to the army something of moment and value. We can give the idea of instruction contained in his work in no better way than by quoting his introductory remarks.

"In the days of the old Springfield rifle, Blunt's Firing Regulations contained an excellent chapter entitled "Suggestions to Riflemen." This work, a most excellent one, was widely consulted and assisted to a large extent in improving marksmanship in the army. To-day, however, rifle firing has reached such a science that it is impossible to burden our firing regulations with this subject. The need

*"SUGGESTIONS TO MILITARY RIFLEMEN," by Lieutenant Townsend Whelen, Thirtieth United States Infantry, winner of the army competitions, 1903, coach of the army infantry team, 1905, distinguished marksman, etc., formerly range officer First Brigade National Guard of Pennsylvania. From the press of the Franklin Hudson Publishing Company, Kansas City, Mo.

of such information and knowledge in the service is greater than ever, and the desire for it expressed to me by many officers of the regular army and National Guard has induced me to undertake this work. While the great part of it is compiled from my own experience, I have consulted practically all the modern writings on the subject obtainable in my endeavors to present to the reader everything on the subject of any practical value.

I shall not attempt to describe the rifle, for I do not care to take up the space necessary. The best description of it will be found in a pamphlet entitled "Description and Rules for the Management of the United States Magazine Rifle, Model 1903." Nor will any of the data contained in the firing regulations for small arms, other than that which is absolutely necessary to make the text clear, appear in these pages. A knowledge of the contents of both these works is necessary to a clear understanding of what is to follow. The reader is referred to any of the standard works on ballistics for the scientific part of rifle shooting, as I shall take up only the practical side of the subject, it being my intention to give fully that information which the marksman and the instructor need to shoot and teach on the range and battlefield.

The system of instruction which I have laid down was first given to the army in a paper of mine entitled "The Scientific Coaching of the Rifleman," published in the *Journal of the Military Service Institution for 1904*, and the success of and the publicity given to this article, as well as the results achieved by the system have firmly convinced me that it is sound both in theory and practice. The system of coaching was first tried on a company of regular infantry in 1902, and since that time every competitor from that company has won a place on the army team.

It is my hope that I have given something to the service which officers and individuals will care to study and to carry to the range with them."

The contents are as follows:

We believe it worth while for troop and company commanders to purchase enough copies of this work so that a systematic study along the lines laid down can be carried out during the winter months. Its style is simple and clear and the matter is so handled that the enlisted man can digest all of it.

We have always held that shooting a rifle at a stationary target is a matter of brains. That the average man possesses enough brains if he uses them or is taught how to use them to make a good shot. We believe that with careful instruction our soldiers can be made much better shots than they are at present. This instruction must be given to all, for a few expert riflemen here and there will not help us much in time of war. A good general average is what we want and this can be attained by careful instruction. And the ideas and experiences of a master, such as the author, should be carefully studied.

The author and the service is to be congratulated on the appearance of "Suggestions to Military Riflemen." We are glad to see that it is published in our pet form, a small volume that fits the pocket of the khakie blouse and so can be carried on the range without any trouble.

We give below a few extracts picked out here and there to show more fully the nature of the work. In chapter 4, on the subject of holding, the author has this definition, "By holding, we mean that attempt on the part of the brain, nerves and muscles to control or eliminate the trembling of the rifle long enough, while it is correctly aimed, to deliver the shot."

From the same chapter we quote the following:

"There are two ways of pulling the trigger of a military rifle. One is to gradually increase the pressure ounce by ounce until the gun suddenly goes off, in the meantime holding the best you know how, the report and recoil coming in the nature of a surprise. The other is to learn to put just so much pressure on the trigger that an ounce or more placed on very carefully at the exact instant when it is desired to fire will discharge the piece. Both methods have their advocates. I believe the latter to be the best way, for we thus have the rifle go off when we want it to, whereas by the former method we limit the accuracy to the average error of holding while applying the pressure. Rapid fire forms such a large part of a rifleman's practice to-day that a man should be able to fire his rifle the instant that his aim is correct. However, the former method is a great factor in teaching a man to overcome flinching, and it is perhaps better to teach recruits to fire in this way and then when they have overcome all tendency to flinch, change them to the other method. Jerking or snatching the trigger is, of course, fatal to good shooting. Control of the trigger is everything in rifle practice. It is that part of the art which is soonest forgotten When we change to a rifle with different trigger pull we must learn it all over again. Hence, we should stick to one rifle as long as it remains accurate, and by daily trigger pull accustom ourselves to the pull and keep in practice."

Speaking of sight the author has the following to say:

"I believe the half sight and the peep sight should be the only ones taught, and one or the other of these methods of sighting should be insisted upon. The use of the peep sight should be encouraged. This sight is used almost exclusively by nearly every expert shot in the country."

He then goes on to explain his reasons for favoring the peep sight. However, he states later on, under the subject of rapid fire that "At 200 yards it is best to use the open sight as it is hard to catch the peep quick enough."

He speaks about each soldier having his own gun and by gallery practice during the winter months keeping familiar with it. "To become really expert with the rifle, one must use his piece until it becomes almost a part of himself; must know its trigger pull, bolt, action, feel, balance, sights and peculiarities as he knows the alphabet. There is an old saying, 'Beware of the man with one gun.'"

Chapter XII, the Score Book, is well worth serious study. And the same may be said of all the chapters.

It is well to remember that in reading Leiutenant Whelen's book we are getting the ideas of an expert, one who knows how to reduce the chances of missing the target to a minimum. One who is not satisfied with hitting the bulls eye, but must know exactly the place in the bulls eye the bullet hit, and what must be done to insure hitting the center of the bulls eye with the next shot.

The whole of our army instruction is for the purpose of putting an equal or superior number of men to the enemy on the firing line, and when there of having them better men than those of the enemy, that is better shots. If the staff corps are able to provide better arms and ammunition, to eliminate the twenty per cent. of sick in time of war, to perfect the lines of communication so that the commander will constantly be in touch with his various units, then we shall have little to fear as to results, if we have upon the firing line a well instructed soldiery, who know how to take advantage of all helps and reduce all disadvantages to the lowest limit, who understand that the only question is of who shall kill whom, and that the best shot will live to shoot again.

About Race Horses.*

"The American Thoroughbred," in the American Sportsman's Library, edited by Casper Whitney, is written by Charles E. Trevathan, than whom none is better qualified to treat such a subject. The writer reviews horse-racing thoroughly from

* Published by the Macmillan Company; $2.00 net.

the days of Bulle Rock, the first American race horse, foaled in England in 1718, down to Waterboy, McChesney, and their congeners of the present day. This history of the American turf is dealt with in an entertaining manner. The performances of famous racers are recorded, and the main facts of their genealogies are given without the tedious details of the stud book. A significant chapter is headed, "Early Owners were Gentlemen." There are notes on well known patrons, breeders and owners, and some graphic accounts of great races of the past. While not written for the specialist, the book will interest all horsemen, and it furnishes information of an interesting character for the outsider. There are a number of pictures of horses and portraits of men.—*San Francisco Argonaut.*

Aids to Scouting.* This is one of Gale & Polden's pocket series. Being written by Major General Baden-Powell little introduction is needed. This soldier officer has written down his ideas and many of his experiences for the use of noncommissioned officers and men. But no officer can read it without being benefited.

The aids are eminently practical, very clearly explained and will appeal to the intelligence of those to whom addressed. It is a valuable little work for about ten or twelve lessons in the noncommissioned officers' school.

The following is the contents: Pluck and Discretion, Finding the Way in Strange Country, Quickness of Eye, Keeping Yourself Hidden and Dodging the Enemy, Tracking, Reading the Spoor, Getting across Country, Sketching, Reporting, Headings for Reports, Despatch Riders, Care of Man and Horse, Spying, Scouting on Service.

The appendix contains some exercises and the directions how to carry them out. Such as the spider and the fly exercise for drilling patrols. Also scouting competitions and how to organize them and carry them out with interest.

*"AIDS TO SCOUTING." By Major General R. S. S. Baden-Powell, Inspector of Cavalry in Great Britain and Ireland. Gale & Polden, 2 Amen Corner, Paternoster Row, London. Price, one shilling to any part of the world.

The little work is written in the racy style of this celebrated cavalryman and is most instructive and entertaining. The proof sheets of the original edition (this is a second edition) were actually revised by the author while besieged in Mafeking.

The author has submitted some diagrams which give a general principal of patrolling formations for fairly open country. He gives the section in "Diamond" formation, and then two sections and then three, the latter in "Arrow Head" formation. These ideas are worth looking over.

The Military Law Examiner.* Gale and Polden have just brought out the sixth edition of The Military Law Examiner. The questions and answers are methodically grouped in sections which correspond to the author's earlier work on "Military Law." The two books may be used together and the student thus be able to test his knowledge step by step as he gradually works through the subject.

The manner in which the questions are framed show that in general a long answer is a wrong answer. We do not know that we agree with the author in his belief that as an examiner has to look over a large number of papers he will not put question that entail long answers. What an examiner wants is to find out if the one examined knows the subject. The form of questions will depend upon the individual manner of the examiner. Of course it is obviously impossible then to state what the form of questions will be unless we know the personal reputation of the particular examiner.

However, we believe the author has made as good a catechismal work as can be made. Personally we never knew these question books to be of any great use. They may serve a purpose in helping one to study an original work but we never derived much benefit from them in preparing for an examination. Some men do of course, else the publishers

*"THE MILITARY LAW EXAMINER." By Lieutenant Colonel Sisson C. Pratt, Royal Artillery, retired. Gale and Polden, Ardershot. Price, post free to any part of the world, 4s. 6d.

would not be bringing out a sixth edition. American officers will of course derive more benefit from a reading of the author's first work that from this question book.

We are struck with the simplicity of the author's definition of military law which is as follows: Military Law is a law that governs the soldier in peace and in war, at home and abroad, at all times and in all places. It deals with offenses committed by officers, soldiers, and other persons, who are, from circumstances, subjected, for the time being, to the same law as soldiers. When used in a wider sense, the term includes not only the disciplinary but the administrative law of the army, as, for instance, the law of enlistment and billeting.

Army Service Pocket Book.*

We must say that we do not agree with many publishers as to the merits of this book. It is a good work of course, but one not at all indispensible and we question the use of purchasing it unless one has some particular need for it, or a book of its kind. As indicated by the title the work intends to be a sort of manual or guide for the service generally. It gave us one idea and that is would it not be possible for some military genius to devise some sort of a military Trautwine? Possibly the idea could not be worked out but something along that line would be better than Lieutenant Stewart's work.

The following are the heads of sections:

Protection.
Reconnoissance.
Finding and Marching on Bearings.
Despatch Riding.
Attack and Defense.
Judging Distances by Day and Night.
Horsemastership.
Camp Duties.
Field Sketching.
Field Engineering.

*From the Press of Gale & Polden, Lmtd. Price, 2s. 6d. Author, Bertrand Stewart, Second Lieutenant, West Kent (Queen's Own) Imperial Yeomanry.

Few military books deal with such a range of subjects and that the author did as well as he did is a matter for congratulation. But the subject is too large for such a volume and though he has many good ideas and many well expressed pages yet the work is of no particular moment to our officers.

The Battle of Tsushima.*

It would be rank flattery to say that this book is in every way satisfactory; but it is most improbable that we will ever be offered anything better. As far as the translators, Dr. J. H. Dickinson and Mr. F. P. Marchant, are concerned, we have little but praise to offer. It is true that occasionally Russian technical terms are rendered by description rather than by their English equivalents, and that the rendering of the Russian into English weights and measures has not been carried out quite completely; but the translation on the whole appears to be adequate, and the irritating simplicity of the earlier pages is, seemingly, but a fair reproduction of the style which Captain Klado judged to be necessary in order to make his views clear to a public very ignorant of naval war. The volume itself is very handsome, and the publishers are to be complimented upon its *format*. For the benefit of the very numerous illustrations, chiefly reproduced from photographs, the size is large (11 in. x 8 in.), but by the use of a light paper for the letterpress the weight of the book has been kept within reasonable bounds. The front cover is decorated with an imperial Japanese chrysanthemum, presumably not at the suggestion of Captain Klado. Nearly all the illustrations are good and clear. There are a few fancy pictures which might have been dispensed with; but the great majority of them are representations of the Russian ships both before and after the battle. The damages to the ships are reproduced with much minuteness. The only serious error noticeable is at p. 24, where a particularly fine photograph of the cruiser *Oleg* is described as the battleship *Orel*.

*"The Battle of Tsushima." By Captain N. Klado, I. R. N. Hodder & Stoughton. 1906. Price, 30s. net.

There will be many who will consider that, by the nature of his conduct at the time of the Dogger Bank affair, Captain Klado forfeited his right to pose as an authority. It has indeed become customary to say that his strategy is sound, but that his method is "unsympathetic." As to the soudness of his strategy, it is permissible to have doubts. The groundwork is, of course, the doctrine of Mahan, but the application is all Captain Klado's own; and we will be much astonished if we are alone in detecting several serious *non sequiturs* in Chapter I. § viii. As to the intrigues that accompanied the equipment and despatch of the Baltic Fleet, it is to be presumed that the author is well qualified to speak in virtue of his intimate and official connection with the Russian headquarters staff. But Captain Klado's comment on the shortcoming of Russian officialdom, on the pitiable lack of efficiency in the Russian Navy, even his occasional ill-tempered allusions to England, do not constitute the whole of the book. The greater part of the second half is composed of narratives of officers who took part in the battle, and it is from these that the author attempts to reconstruct the battle. It would seem that with such material the task is an impossible one. Not that the letters and reports of the Russian officers have not a real value, but their value is not mainly scientific. The writers were not so situated that they could play the part of dispassionate observers; and the result is that, if their letters are vivid with the psychological atmosphere of battle, yet they suffer from "the fog of fighting," and show that the interconnection and sequence of the movements of the fleets passed comparatively unnoticed owing to the fierce strain. The result is that the attempted diagram of the battle fails signally: it bears not the slightest resemblance to any plan or account hitherto published, and it contradicts the Japanese evidence at every point. On the other hand, the narratives and plans here given bear out, and indeed add somewhat to, all that has been said of the Russian formations before the battle and during its early stages.

A good deal of interesting, perhaps valuable, information may be drawn from this book. For instance (p. 17), as to the Russian designs on the Dardanelles—this seems to have slipped from Captain Klado's pen unobserved; as to the ignorance of Russian officers (p. 79); and as to the value of 6-inch guns in a fleet action (p. 133). All Russian officers seem to be agreed on this last named point, and they have had reason to know; but it must be confessed that Captain Klado does not increase our respect for his individual opinion by his clinging to the absurd belief that the Japanese used submarines in the great battle (p. 124), or by continuing to aver (p. 5) that the restoration of the *Malacca* was a "shameful surrender."—*United Service Magazine* (*England.*)

'From Libau to Tsushima.*'

This is a narrative of the voyage of Admiral Rojdestvensky's fleet to the Eastern Seas, and is a singularly human document. It is in the form of extracts from a diary sent home in letters to his wife by Engineer Constructor E. S. Politovsky; it begins with the departure from Libau and ends when the fleet was somewhere off Shang hai, since Politovsky went down with his ship, the *Kniaz Suvaroff*, in the battle of the Sea of Japan. Like many of his shipmates in the ill-fated fleet, Politovsky had never before been to sea, having done all his service in the Admirality at St. Petersburg; everything consequently was strange, but one cannot read his diary without feeling that here is a reflection of his fears, doubts and despondency which filled the hearts and minds of the *personnel* of the foredoomed squadron. Politovsky's billet on board was no *sinecure;* the ships, old or originally badly constructed, or execrably handled, were constantly in need of repairs, in which Politovsky's supervision was invariably required; there was little discipline among the crews; the ships were ill-found, and on occasion the decks and casements were over-laden with coal; two at least of those in chief command were in constant bad health —and yet this amazing voyage was actually accomplished without one ship of the armada being left behind.

*"From Libau to Tsushima." By the late Engineer-in-Chief E. S. Politovsky. Translated by Major F. R. Godfrey, R. M. L. I. London: John Murray. 1906. Price 6s. net.

From the outset Politovsky had no hopes of success; throughout the weary and protracted voyage he seems to have felt — as many of his shipmates must have felt with him — that all were bound on a desperate and hopeless mission. That the fleet was brought out to the east and laid alongside the enemy was largely due to the skill and devotion of the writer of these despairing letters, which complete the story of this voyage, of which hitherto we have known but the dramatic beginning and end.—*United Service Magazine* (*England.*)

Five Years a Dragoon.*

Soldiers' autobiographies, seldom interesting to strangers, and more rarely of value to anyone, have been common enough since 1865. But the experience of an intelligent regular before the Civil War now appears for the first time. In "Five Years a Dragoon" Mr. Lowe embodies ten years of military life, five in the mounted ranks, and five as a high-grade quartermaster's employee in active service on the great plains, beginning in 1850. The story was well worth waiting for, for besides its interest as "a human document," as the phrase goes, it is the history of a past never to be repeated, and full of peril and of an excitement that closely approaches romance. It is an enlisted man's supplement to Marcy's account as an officer. It describes from the inside that life of frequent storm and stress of which Parkman caught glimpses along "The Oregon Trail." There is nowhere a formal record of how the rough, and often dissipated recruits, were transformed into iron soldiery, who held positions or died in their tracks with no other thought than that of duty. No drill-book teaches the art. But the careful reader sees here that the officers, who were also gentlemen, encouraged the worthy, controlled the unruly, administered justice, and enforced obedience with an impartial and relentless hand, and solely for the public good, thus establishing a standard to which

*"Five Years a Dragoon," by Percival G. Lowe. Kansas City: The Franklin Hudson Publishing Co.

each in his own grade was insensibly drawn. Lost to the popular eye in the hordes of volunteers, the little army thus created was more than "a stone wall;" it was from end to end a *corps d' élite* that never had, and doubtless never will have, popular recognition of its service in the dark and stormy days of the rebellion. Ravaged by hostile fire, impossible to be recruited under the counter inducements for volunteers, it was frayed into nothingness before Appomattox was reached, and its reconstruction became a weary and difficult task.

Mr. Lowe's relation is a new proof that "the captain and the first sergeant make the company." In later days he would have been commissioned long before his enlistment had expired. Many a man with less military aptitude, merely because he carried a rifle, has become a company officer, to say nothing of filling higher places. The wisdom of that policy is another question.

In these pages, men afterward very famous, then young and unknown, cross the path. Cuvier Grover, Simon Buckner, Robert Williams, Eugene Carr, J. E. B. Stuart, John Buford, all subalterns who later became generals of renown, and others of greater rank, as Sedgwick, Harney, Sumner, Van Vliet, Fitz-John Porter, Albert Sidney Johnston, were building character by the inconspicuous discharge of routine duty often interspersed with peril and loaded with responsibility. Charged with practical hints about savages and civilians, mules and wagon trains, troop horses and troopers, this is an important contribution to a phase of American history, the opening of the great plains whose intelligent record is so inconsiderable. There are occasional errors in proper names, and there is no pretence at literary style; but it is a good book. We make note of it not as essential literature, but as the truthful and unadorned story of a man who in a most modest sphere rendered valuable public service. Every collection of Americana should open for it, and many a library besides.— *The Nation.*

Fredrick Remington says:

"Its a great document and the best kind of history of a period which has left little copy."

In a letter, the Hon. D. W. Wilder, one of the most famous newspaper men and critics in the West, says:

"The edition will all be sold. Your fame is permanent. The 'Nation' likes the book so well that it finds no fault."

And again he says:

"You have done a patriotic work in writing it. Incidentally your own sterling character, courage and intellectual resources are fully revealed. Historically, you have done a work that few professional authors ever succeded in doing—made a book that will live as long as our country is inhabited by civilized man. It will be read, printed, placed in libraries, enjoyed by young and old, and will teach the virtues that you have lived and practiced. In this central west, with its increasing millions of people, it will be a permanent service book to all historians."