

# MILITARY ESSAYS AND ARTICLES

by

George S. Patton, Jr.  
General, U.S. Army  
02605

1885 – 1945

MILITARY ESSAYS  
AND ARTICLES

by

George S. Patton, Jr.  
General, U. S. Army  
02605

1885 – 1945

Edited by

Charles M. Province

President and Founder

The George S. Patton, Jr. Historical Society  
3116 Thorn Street  
San Diego, California 92104-4618

COPYRIGHT 2002©  
All rights reserved.

## Table of Contents

1929 CAVALRY DIVISION MANEUVERS, THE  
ARMORED CARS WITH CAVALRY  
THE ARMY AT THE NATIONAL HORSE SHOW  
CAVALRY WORK OF THE PUNITIVE EXPEDITION  
CAVALRYMAN, THE  
CHRISTY CAR, THE  
COURSE AT THE ARMY WAR COLLEGE  
COMMENTS ON "CAVALRY TANKS"  
DEFENSE OF THE SABER, A  
DESERT TRAINING CORPS, THE  
EFFECT OF WEAPONS ON WAR, THE  
FEDERAL TROOPS IN DOMESTIC DISTURBANCES  
FORM AND USE OF THE SABER, THE  
THIRD ARMY LETTERS OF INSTRUCTION:  
Letter of Instruction No. 1.  
Letter of Instruction No. 2  
Letter of Instruction No. 3  
Letter of Instruction No. 4  
LIGHT TANK REPORT  
LOS ANGELES COLISEUM SPEECH  
MECHANIZATION AND CAVALRY  
MECHANIZED FORCES  
MOTORIZATION AND MECHANIZATION IN THE CAVALRY  
MOUNTED SWORDSMANSHIP  
PROBABLE CHARACTERISTICS OF THE NEXT WAR, THE  
NOTES ON COMBAT ARMORED DIVISIONS  
NOTES ON TACTICS AND TECHNIQUE OF DESERT WARFARE  
NOTES ON THE DESIRABILITY OF UNIVERSAL SERVICE  
OBLIGATION OF BEING AN OFFICER, THE  
PATTON'S POETRY  
PATTON'S BEST QUOTES  
PERSONAL EXPERIENCES IN THE TANK CORPS  
PERSONAL GLIMPSES OF GENERAL PERSHING  
PRESENT SABER; USE FOR WHICH IT WAS DESIGNED, THE  
REPORT OF OPERATIONS OF THE ARMY POLO TEAM OF 1922  
SECRET OF VICTORY, THE  
SOME NOTES ON THE EFFECT OF WEAPONS  
SUCCESS IN WAR  
TACTICAL USE OF SEPARATE TANK BATTALIONS  
TANKS IN FUTURE WARS  
TANKS, PAST AND FUTURE  
TRAINING MEMORANDA TO HIS REGIMENT  
VICTORY IN EUROPE SPEECH  
WAR AS SHE IS  
WHAT THE WORLD WAR DID FOR CAVALRY  
WHY MEN FIGHT  
BRITISH PATTON SOCIETY SPEECH (CHARLES M. PROVINCE; 11/11/90)



## THE 1929 CAVALRY DIVISION MANEUVERS

By Major George S. Patton, Jr., Cavalry

Cavalry Journal  
1930

It is more difficult to write of a maneuver than to judge a horse show. In horse shows one secures a friend with each blue ribbon; in maneuvers there are no blue ribbons.

Since, however, the guilelessness which induces one to accept either the judging or the writing job must spring from a forthright mind, we shall try to make our remarks as brief and opposite as are our awards.

All the horrid events of October, 1929, leading to and culminating in the Corps Command Post Exercises were arranged so as to follow the probable course of a campaign in which the Browns were the invading Etruscans and the Whites the defending Romans.

The two first situations centered around attempts of the invaders to cover the loading and withdrawal of large quantities of stolen property from areas along the railway east and west of El Paso. Special interest is attached to these operations because they were so drawn as to bring out the relative strategic and tactical mobility of two forces the defenders composed of dismounted portee cavalry and armored cars, while the attackers were normal cavalry.

The results seemed to us completely to accord with the reported remarks of a French officer commanding portee dragoons to the effect that; "Their strategic mobility was excellent; their tactical mobility zero."

In the third and fourth situations, the Whites had to employ cavalry and armored cars in offensive defensive operations. In the third situation this took the form of an attempt to delay two Brown units approaching Fort Bliss from the southeast and north. In the fourth problem the Browns had to delay the Whites in order to permit a convoy to traverse a bridge.

The next two situations the fifth and sixth gave a chance for two cavalry brigades, each with artillery and armored cars attached, to try their mettle in the attack and defense of Filmore Pass. The Whites in each case being the attackers.

In the seventh phase it fell to the Second Brigade Whites to hold a bridgehead over the Rio Grande at Mesquite against the attack of the First Brigade Browns.

The eighth phase was to have been a division in attack, dismounted, using ball ammunition. Unhappily the intervention of Napoleon's fifth element (mud) in the particularly adhesive form prevalent in the southwest, prevented the staging of this problem.

Next came the division on the defensive against an outlined enemy.

And, finally, the maneuvers ended with a twenty-four hour Corps Command Post Exercise in which some physiological change having occurred, each headquarters, down to the regiment, found itself suddenly translated into the next higher sphere of the military hierarchy.

It is quite patent, though seldom admitted, that being human we are fallible.

The purpose of maneuvers is to show up these errors, to “plow” as it were, the hardpan of our self complacency so as to admit the sunlight of experience in the hope of germinating some seeds of added understanding.

In essaying the role of the “plow” mentioned in the above paragraph we claim no infallibility of understanding and simply state our personal opinions as to the lessons taught.

### ARMORED CARS

Due to the fact that these exercises marked the debut of the armored car in maneuvers with our cavalry, it is probable that the machines attracted more than their due share of attention. Yet it is undeniable that they put up a splendid performance and that the officers and men manning them deserve the greatest praise. Their ability for delaying actions was most marked; while, due to the fact that most of the Texas roads are unditched and unfenced, they were able to leave them with more facility than will usually be the case. Another local characteristic which induced some to over value their performance lay in the fact that in dry weather the plains of the southwest can be quite readily traversed by wheeled vehicles so that in many cases the cars assumed the duties of light tanks and performed them in a most efficient manner.

Their invisibility was surprising. On one occasion a number of observers, hearing firing, searched a slope some 800 yards distant with their glasses, but could only locate several clumps of bushes. Suddenly, one of these clumps rolled out of view. It was an absolutely uncamouflaged car.

The principal lesson learned with respect to fighting against armored cars is that, since they go best on roads, the best place to fight them is off the roads.

Another lesson was that in rolling country they possess considerable ability to support the attack of mounted or dismounted cavalry with oblique fire.

Efforts to cover their withdrawal by the use of smoke emitted from the car were disappointing, due probably to the everlasting wind and treeless nature of the country. Further experiment in wooded or hedged country may well prove the value of such screening methods.

Umpires had a tendency to over value the effect of moving fire from cars. When blank ammunition limits fire effect to noise they are certainly quite impressive, but our experience with moving fire from tanks leads us to be skeptical of it's lethal value.

### COVERING DETACHMENTS AND ADVANCE GUARD

In many cases it seemed that the distance to which these forces were pushed out was insufficient. As a consequence the main body was frequently subjected to fire from enemy in position or else the information secured as to his location and movements arrived too late to be of tactical value. Another cause for the delay in the utilization of the information derived from these detachments sprang from the custom highly commended by our service schools of having the commander remain back with the main body instead of accompanying the leading elements. Such a system may be conducive to longevity but is hardly compatible with speed. This is particularly true in cavalry versus operations.

### PATROLS

There was constant comment by all observers on the lack of information secured by this means. This defect was partly due to unavoidable restrictions imposed by the situations which prevented patrols from being sent far out. This taken in connection with the rapid rate of cavalry movements prevented the patrols getting the information back in time for it to be of value. The conduct of the patrols we observed and the energy of their personnel were most excellent.

### BOLD RIDING

The ability of the regiments to move rapidly for long distances either by road or across country was remarkable, while the excellent condition of the horses at the end of the maneuvers spoke volumes for the care and efficiency of their conditioning and training.

Another surprising circumstance was the very small number of shoes lost, despite the fact that the going was often deep and always rough.

### THE 37MM GUN

Four methods of carrying this weapon were used. In pack, as a field piece with a limber, in light wagons, and on a two wheeled, two horsed cart. Though all functioned well, it was generally believed that for all purposes the pack method was most useful. A shorter trail, or one capable of being hinged, would add to the ease of packing. The Cavalry Board is developing such a trail.

If our memory serves us, Frederick the Great was once informed that his Austrian enemy had only one flank, the right, exposed as the left was resting on an impassable obstacle. When he heard this Frederick said to the officer, General Lloyd, who had made the reconnaissance; "Are you quite certain that his left can't be turned?" "Yes, Sire," replied the Scotsman. Then, said Frederick, "We shall envelop his left for, if you are certain it is safe, he will be also."

A captain of cavalry stationed at Fort Bliss must have heard of this story for he not only took his troop over an impassable mountain but also dragged a 37MM gun along with him.

### SKIRMISH LINES

"Lost to sight (in the T.R.'s) to memory dear" is certainly true of the skirmish line for, despite much spilled ink and fluent conversation anent the virtues of a line of groups, there was a most persistent reversion to lines whenever dismounted formations were used. On the other hand, the mechanism of fire direction and control in the lines were splendidly executed by noncommissioned officers and men.



## MACHINE GUNS AND RIFLES

The great access of firepower which cavalry has derived from the increased use of these weapons was most impressive.

It is an open question, however, whether the machine rifles would not be more effective if combined by squadron in all actions where the squadron acts as a whole in combat with other cavalry. There is nothing in the present organization which prevents this, and in some future maneuver it might be well to try it out. On the one occasion where we saw this method used it seemed effective.

## AIRPLANES

The information each side obtained through dropped messages from its observation plane was not only good, but too good, because undue reliance began to be placed on the constant and accurate reports dropped. It is felt that, in future, a more realistic situation could be induced by placing certain restrictions on the observation planes instead of having them, as in the last case, completely unmolested either by ground fire or the attack of hostile aviation. For example, planes having been assigned to each side, an umpire ruling might be sent to the airdrome announcing the Brown plane that it could only observe between the hours of 10:00 and 11:30, and to the White plane that its observation would be limited to the period from 8:00 to 9:00 and from 11:30 to 12:00. With these restrictions affecting the planes and the ground commanders uninformed, conditions of uncertainty similar to those liable to arise in war might be engendered. One of the particularly excellent performances by the airplanes was not known to many observers, due to the fact that it had no bearing on the problem. But it is none the less true that an airplane using radio kept in constant communication with the division headquarters during the entire brigade period, and by its messages, kept the chief umpire accurately apprised of the changing situation.

## ARTILLERY

Due to the fact that the bite of artillery is much worse than its bark, particularly when that bark is limited to blank ammunition, the great value of the 82nd Battalion (horse artillery) with the division was not brought out. Yet on every occasion when its fire was demanded it was there in place ready to deliver it, while its marching power and condition of equipment were of the highest order.

The usual claims were made by enthusiastic gunners, either machine or 75, that annihilating fires were brought on massed enemy formations at effective ranges. While it is perfectly certain that such fires would be brought on massed troops it is equally beyond question of doubt that they would not remain on them long because, human nature being as it is and the horse having the speed God gave him, it does not take long for complete dispersion to occur.

## ENVELOPMENTS

While many observers did not concur in the views to be expressed, it seemed to us that commanders were a little chary about making a full use of the mobility of cavalry to effect very wide turning movements with a view to the delivery of an attack, not from the flank, but from the rear. This reluctance to reach far out is partly traceable to the fact that many officers have graduated

from schools where a great part of the map problems deal with infantry, where very wide movements are impossible, and have subconsciously absorbed fixed ideas as to justifiable extensions based on such problems. The advent of armored cars which can be used to protect the inner flanks of such turns seem to us to have given impetus to this class of operation.

### CONTROL

There were many comments at all critiques concerning the lack of control over units once they were engaged. It is our very personal opinion that often such comments were incorrect.

In dismounted actions control is certainly possible. So it is in map maneuvers dealing with mounted troops. But until some much more perfect and simple radio is available, or until we can devise a scheme of thought transference, it seems doubtful if very much control can be exercised over such fast moving units as cavalry or mechanized forces. Instead of complaining about the absence of control it might be more advisable to so simplify our tactical ideas that less control will be necessary. Possibly a modified application of Nelson's dictum of "Attack the enemy wherever you meet him" might produce better results.

In glancing over the rather alarming list of imperfections we have had the temerity to adduce, it might seem that many defects existed. Such is not the case. The final remarks of the Corps Commander, General Lassiter, and of the War Department representative, General King, should make the cavalry division not only proud of its achievements, but confident of its future.

## ARMORED CARS WITH CAVALRY

By Major G.S. Patton, Jr., Cavalry

Cavalry Journal  
January 1924

“General Carbon, I think the battle is ripe. Direct the 2d Deathbolts to charge the enemy left.”

By this simple order, Lieutenant General Alonzo B. Gasoline, seated at his green lit desk in the gas proof seclusion of his command car, loosed the two million pounds of petrol propelled hate on the tottering flank of our doomed opponents.

But, how can a human Dictaphone describe the inspiring majesty of the sight which soon unfolded itself before our eyes on the screen of our radio motion picture projector, whose lens, high above us in the observation helicopter, commanded a complete view of the battlefield?

As we gazed in haggard expectancy to the extreme right, our screen showed only the scorched hills, their blasted vegetation looming ghostly through the green haze of the gas clouds. In an instant, however, the line of our scout tanks appeared over the crest and dashed on the foe, while behind them, in perfect order, came the three ranks of our incomparable 2d Deathbolts. Long, solid lines of flame poured from their twin exhausts, attesting to the top R.P.M. of their engines, while the air above them frothed with waste oxygen from their fighting compartments.

Instantly the enemy guns spotted them; great geysers of sand and mud burst in their ranks. One, I noted, cracked open like a walnut, while it's doomed crew hurtled from it, only to sink like charred embers in the reek of the all consuming gas.

Despite my staff training, the battle lust grew on me. Moved by an unaccountable impulse, I switched on the auditory microphone, so that the sounds of the distant battle were as clear to me as were it's sights. On thundered the tanks. Shell fire was impotent to check those dauntless chauffeurs! The enemy, too, realized this and played his last card. From the charred draw on his left appeared the solid mass of his reverse tanks, charging straight at the now disorganized Deathbolts.

Pandemonium broke loose. To the tock-tocking of the whirling caterpillars, the roar of the guns, the shriek of the engines, and the all pervading hissing of the gas was added the high, staccato hum of airplanes, as our supporting squadrons, flying low over the 2nd, squirted liquid fire into the eye-slits of the enemy.

All this takes long to dictate, but happened with amazing quickness. Nearer and nearer waddled the opposing lines, their rate of approach approximating fifty miles an hour. Could steel and rubber stand the shock? Then, with a slithering roar, they met. Sparks flew; track plates, shivered in a thousand fragments, filled the air. So terrific was the impact that many tanks simply exploded, completely dissipated by the shock.

The chaos of the melee lasted a full minute. Then we saw the third line of the Deathbolts sweep through the ruck and on, over the enemy position, to VICTORY.

Shall such battles occur? In view of past experience, it would be a bold man who would deny this possibility; but a bolder, perhaps, who would look for its immediate realization.

Yet, there are soldiers, men of high mentality and war experience, who dream of such battles. From these enthusiasts insane, perhaps on the one hand, the notions of mechanical warfare grade down to another class, to whom history and invention mean nothing and who banish all thought of mechanical achievements from their concepts of future wars. They, too, are insane.

As ever, the truth lies between nearer, perhaps, to the lower than to the highest mark at least for our generation.

Let us examine, in the first place, how mechanics has affected, or may affect war; then by pruning our fancies with the heartless shears of Fact and Finance let us see how we may use some of the obtainable possibilities.

Ever since man banded together with the laudable intention of killing his fellows, his movements have depended on means of communication. War had depended on roads. From very remote times, man has used wheels to aid his progress or the progress of his stores. The improvement of the vehicle and of the road has only affected this with respect to the rapidity and volume of traffic, not with respect to the direction of movement. Roads are, then, a very restrictive influence.

No matter what sort of wheels he uses, if there are no roads, he cannot move. If the roads are poor, he is little better off than in his bulcart days. For example, it is quite safe to say that had General Grant possessed all the trucks in the A.E.F., he nonetheless could not have supplied an army in the Wilderness Campaign much larger than the one he supplied with wagons. From a supply standpoint, then, wheels are no better than the roads. Ten percent of the roads in the United States are improved. Tactically the same is true, with this added consideration; that while wheels add to the mobility of troops on the march, they give no battle mobility. The cargo must dismount to fight, and that well out of range. Even rubber tires have not changed war beyond recognition.

We must now consider a more advanced wheel the caterpillar tread. With such, we are not bound to roads and have, therefore, a great increase in mobility to the battlefield and on it. To move and feed great armies over roadless lands, we need but caterpillars. To augment our horse borne squadrons with armored comrades, we need but caterpillars. To place our heaviest guns how and where we will, we need but caterpillars. BUT one can almost hear the snipping of those fateful shears, Fact and Finance. Have we got the numbers or the types? Will we afford them? I have no brief against roadless tractors, nor do I hold with the churchman like conservatism too common in all armies; hence, I am willing to admit that the time may conceivably come when, in the immutable cycle of military endeavor, we shall see small professional armies of highly trained mechanical soldiers, operating simple, yet powerful machines, again dominate the battlefield as did their prototypes, the heavy cavalry of the armies of Belisarius and Narses. Or, again, we may see the roadless machine, with all its apparent potentialities, sink to a position analogous to that occupied by the submarine, which but a few years since was so touted as the future mistress of the sea. Who may hazard a guess?

From the standpoint, however, of practical soldiers of an economic nation; remembering, too, that we have a vast plant on different lines ready to our hand, it seems better to follow the maxim of Disraeli to "Compromise." Nor is this all. Should our enthusiasm for the novel and the

mechanical carry us too fast, we might conceivably find ourselves in the situation of the lobster who, having in his haste for new glories sloughed off his old armor, finds himself forced to seek the seclusion of some rocky cave until his new plates have hardened. A cave for a nation our size is hard to find, and a soft-shelled America might find many with an appetite for it's unprotected abundance.

In seeking for the compromise above referred to, we shall endeavor to see how we may utilize certain mechanical means now existing and within the means of our limited financial resources. It would be interesting to pursue this study to all means and for all branches of the service. This, however, were over long for such an article, and, further, presupposed a general knowledge far greater than that possessed by the writer.

We shall then simply confine ourselves to the cavalry for the arm, and to the armored car for the mechanical means, regretfully snipping off the tank from this discussion because, at the present time, **THERE IS NO TANK AVAILABLE FOR ISSUE IN THIS COUNTRY WHICH CAN KEEP UP WITH ANY UNIT OF CAVALRY.**

It is true that an armored car such as we contemplate does not exist either, but it can be easily and cheaply constructed from existing motor vehicles, limited armor plate, and machine guns. It is simply an assembly proposition, not one of manufacture.

The armored car contemplated here is not one of those armored forts miscalled cars in Europe. They are too heavy, too expensive, and have unnecessary gun power. Such assault machines may be useful, but not for cavalry. For our purpose, we desire an armored car consisting of a stock chassis of some commercial twoton truck, thus insuring an abundant and ubiquitous supply of spare parts; the engine, gasoline tank, driver, and gunner to be protected by armor capable of stopping rifle fire at one hundred yards; pneumatic tires, and de-mountable disk wheels, with one air-cooled machine gun, preferably with all-round fire. There should be no roof to the gun compartment and no protective floor to this machine. It is realized that such simplicity will arouse the ire of every inventor. Unfortunately, inventors don't have to fight in the things they make. Every ounce of extra weight put on an armored car or tank reduces it's fighting strength many percent.

The question may then be asked; Why use armor at all? It is an apt question. The British light car patrols were unprotected Fords, mounting one machine gun. They did excellent service. The protection above referred to would make these cars much more formidable than the Ford without greatly reducing it's mobility. The expectation of life of the crew would be very high. We base this assertion on fact. On inspecting many tanks (British, French, and American) just after battles, we have frequently been unable to find even a single hit. The reason seems to rest on the following facts; Battle is not very dangerous, that is, the fire in battle is nothing like the fire of the target range; fire is a great defense. If you shoot rapidly at a man, with fair accuracy, he loses interest in his aim. Troops do not like to fire at tanks (or armored cars) at short range, because they somewhat erroneously think they will be destroyed. At long range, their fire is not effective and their bullets have little penetration.

Movement! A quail is not doomed to death because he has no armor, neither is a destroyer. An armored car with cavalry is a land destroyer.

There is no gainsaying the fact that an inch and a half of steel all around would be comforting. A No.2 field range would also be most handy to a cavalry soldier caught at meal time far from camp. Both are unattainable comforts and for the same reason, weight.

To add further emphasis to a point apt to arouse controversy and also to accede to our national penchant for voting, it is confidently asserted that if men who have fought in tanks in action were asked to voice an opinion, they would willingly dispense with fifty percent added protection in order to secure five percent added mobility.

Having described our weapon, let us by a series of concrete examples demonstrate it's usefulness.

With a reconnoitering detachment; Such a detachment varies in size from a platoon to a squadron, and precedes by, perhaps, a day's march, large masses of cavalry. It acts with patrols covering it's immediate front and, on advice given by them, secures information of the enemy main body. The detachment itself advances by bounds, securing it's local protection by an advance guard, etc. Suddenly, the point of the advance guard of our reconnoitering detachment, advancing as described, tops a rise and is fired on by enemy cavalry, who at once retire to the cover of the next rise, some thousand yards to our front. Lacking an armored car, our point must form as foragers and gallop the distance to where the enemy disappeared. In so doing it may sustain casualties from fire; in any case it will fatigue it's horses. Were an armored car present with the main body, it could come up in short order, and, moving at speed and with comparative immunity, solve the situation as to the condition of the next ridge. At the same time, it's normal position with the main body would in no way add to the visibility of the point while en route.

There is, of course, the bogey of a concealed gun on the ridge in question, which, placed there by the supernatural acumen of the enemy, will blow the car to bits. Would it do less to the members of the original point? Or are the lives of four men in a car more worthy of protection than those of eight men on horseback? Do we find isolated guns with small cavalry units? Of course, there is danger, but that is the common condition of war.

With the last situation cleared up, the march resumes. Shortly, from the right front, comes the sound of distant firing. The commander of the detachment remembers that, "Knowledge is power." The speediest way to get the knowledge is to send the car. Again, it may be hit; so might a mounted patrol on the same mission. In fifteen minutes the car has made the round trip of six miles to the patrol and returns with a full report, perhaps also a corpse for identification

Shortly after this, the detachment approaches a hill situated a mile and a half to the left of it's route; rather too far for a security patrol to go; yet, the map shows that from the hill a good view can be obtained. Again, the car goes quickly to the hill and has a look and rejoins the column without difficulty.

Next, on topping a long rise, the point gets it's first view of the Red River, a mile to it's front, and on the white road, half a mile beyond the bridge, sees about a platoon of probable enemy advancing at a brisk trot. Clearly, the possession of the bridge is vital to the continuance of the mission. The car, rushing at thirty miles an hour, reaches the bridge and delays the enemy until the main body arrives, and is ready to charge if he is still in a nasty mood.

During the course of the day the reconnoitering detachment finds itself more and more cramped by the enemy cavalry. Finally, it's patrols can make no progress, and a regiment of the enemy has

been definitely located. Here is a case where the cavalry mass in rear must intervene and remove the obstacle, so that the reconnoitering units may progress. The pack wireless is put up, but there is too much "static." A motorcycle messenger might be used, but in enemy country he may be sniped. The armored car will be safer and fully as quick.

At eight a.m. the next day the 1st Cavalry arrives with Troop A, 1st Machine Gun Squad, and the 1st platoon Armored Car Troop No.1 (three machines) attached. By ten a.m. the enemy is met, and attack, using combined action, had been decided upon. The pivot of maneuver will consist of the advance guard and Troop A, 1st Machine Gun Squad, which will attack along the axis of movement.

The best fire position is a little rise occupied by the point. Just as the machine guns move toward it, a troop of the enemy cavalry gallops for the position. The armored cars, however, reach it first and hold the enemy in play until the machine guns are established.

The 2d Squadron moved under cover by a road to attack the enemy left; perhaps the cars precede it to insure the occupation of the departure position; roads permitting, they might even follow the charge, or else they might be held to lend fire strength to the pivot of maneuver, and, in the event of a successful envelopment, might later move up rapidly along the axis to join in the pursuit.

Many other situations suitable for the use of armored cars with cavalry can be imagined; such as in parallel pursuit, speeding ahead to harass the enemy and delay him until the cavalry can cut him off.

In raids they would be useful for pivots of maneuver, distant reconnaissance, messages, transporting explosives, etc.

For delaying actions in rolling or wooded country, armored cars will be most valuable.

But, to be useful in any of the above capacities, the car must be mobile, practical, and simple of repair, not a costly, hypothetical monstrosity.

No, bearing in mind our remarks as to wheels and their limitations, it is evident that our armored car must of necessity pertain to a cavalry force of such a size that some portion of it will always be on a road. This limits the permanent attachment of cars to cavalry brigades and higher units. A suitable unit for a brigade would be an armored car troop of nine cars divided into three platoons of three cars each.

They should be permanently of the cavalry, imbued with it's spirit, ready to accept losses, and they must always remember that their duty, in common with that of all cavalry, is to **CLINCH AND DESTROY**.

\*The Editor may be pardoned for recalling an occasion on which the author of this military fantasy did, himself, bring back an important corpse on his unarmored car, for identification.

## THE ARMY AT THE NATIONAL HORSE SHOW

By Major George S. Patton, Jr., Cavalry

Cavalry Journal  
January 1923

The thirty-seventh annual show of the National Horse Show Association of America has come and gone, leaving in the minds and hearts of those army horse lovers who were fortunate enough to be present or who followed the events in the press a feeling of great pride and satisfaction in the improvement of the army horse, in the improvement in army riding, and a further sense of reflected glory in the truly grand performance of one officer, Major John Barry, senior instructor in equitation at the Cavalry School. Not only did Major Barry make a perfect performance himself, but the student officers whom he had instructed and who formed the other members of the Riley team covered themselves and him with glory.

Truly the year 1922 has been a memorable one in the history of army horsemanship. In polo, for the first time an army team won the junior championship. For the first time, army ponies outturned and outran civilian ponies. For the first time, an army pony played for civilians in an international match

In the show-ring not only has the army been preeminent in its own sphere, but on several occasions army horses have won in open classes against the best competition. The climax in this respect, however, was reached when, on the opening day in New York, two army horses carried off the blue and red in the first event of the show; for in class 183, jumping, open to all, against 71 competitors, among which may be mentioned such famous horses as CHALLENGER, SIR LINSIN, SILVERCREST, DOWN EAST, WOODCOCK, NANCY PANSY, SILVER TIP, and FOXCATCHER. Major Barry, on MOSES, and Captain Bausket, on RAVEN, scored first and second.

On the same day, in Class 211, the Moore Cup, officers' jumping, Bausket, on RAVEN, again got the blue; PLEASANTON, Major Schwenck, the red; MORGAN, Major George, the yellow; and JEFF, Major Quekemeyer, the white. This also was a fine class, with forty starters and no poor performances.

On the second day the army started badly. In Class 200, troopers' mounts, we lost to the New York State Troopers, Sergeant Curry, on HUACHUCA, securing only the white.

In Class 199, artillery horse shown in hand, we again lost, the blue going to the 105th Field Artillery, of New York, while the 2d Field Artillery from Myer got the rest.

In Class 205, officers' chargers, light weight, SUBMERSIBLE, Major Barry, won the blue; ALLAHMANDE, Major Patton, red; BABE WARTHON, Captain Padget, yellow; SALADIN, Major Wildurn, white. Three for Riley, one for Myer.

In Class 214, the Beresford Challenge Cup, officers' jumping, Riley split even with West Point, getting first and fourth. DECEIVE, Captain Gerhardt, won blue; PLEASANTON, Major Schwenck, red; LEONARD WOOD, Major Taulbee, yellow; JOHN BUNNY, Major Annin,



white. All these horses went clean, but in the jumpoff, old DECEIVE came back with a second perfect score, adding fresh laurels to his nineteen years of victory.

The first event of the third day was Class 206, officers' chargers, heavy weight. There were nine very good horses in this class, which is a marked improvement, as usually the army has had fewer heavy horses. KEY, Major Taulbee, got the blue; General Harbord's GAY LARK, Lieutenant Jadwin up, the red; CHISWELL, the Cavalry School, the yellow.

In Class 207, the Bowman Challenge Cup, the 3d Cavalry had a great disappointment when ALLAHMANDE, who had twice won it for them, was beaten by two better horses, SUBMERSIBLE, Major Barry, getting the cup, while KYE, Major Taulbee, got the red ribbon. No other ribbons were given. This also was a very good class and the jumping, even in full field equipment, was excellent.

Class 188, the Grafton broad jump, open to all, was won by DANDY DUDE, ridden by Major Quekemeyer.

The army opened the fourth day by winning Class 60, mares suitable for breeding polo ponies. This was an open class, with many entries, and was won by ELLA, Major George, Fort Myer.

Class 203, officers' polo ponies, was a decided victory for West Point, VAMPIRE, COUNTESS II, and BLUES getting the first three ribbons.

Class 204, officers' polo ponies, heavy weight, was won by ELLA, Major George, with JAVELIN, Major Patton, red; MARVEL, West Point, yellow.

Class 210, officers' charger championship, was won by SUBMERSIBLE, Major Barry, ALLAHMANDE, Major Patton, getting the reserve ribbon.

Class 208, the Overseas Cup, was a fine class, with twenty-seven excellent horses. This is a combination manners, conformation, and jumping class, and one of the most sought after prizes of the show. SUBMERSIBLE, Major Barry, won blue; BABE WHARTON, Captain Padget, red; KYE, Major Taulbee, yellow; GAY LARK, General Harbord, Lieutenant Jadwin up, white.

In Class 187, hunters and jumpers over five-foot jumps, the army hoped for another open victory and only missed by one light hind tip, which put JEFF, Major Quekemeyer, in second place.

Class 184, open pair jumping, saw two army teams in the ribbons, CUSTER and GROUCHO, Captain Thayer and Major Patton, getting fourth.

The fifth day, in Class 201, horses suitable for cavalry remounts, the army got second with HUACHUCA, Sergeant Curry, Washington.

Class 202, the Jockey Club Plate, is an open class, for conformation and manners, of horses suitable to be chargers. There were many good civilian horses in this class. SUBMERSIBLE, Major Barry, won blue; KYE, Major Taulbee, red; FAIRFIELD, Mr. Lanier, yellow; ALLAHMANDE, Major Patton, white.

Classes 197 and 198, artillery teams, were won by the 2d Field Artillery, Fort Myer, with West Point second and third in each case.

Class 194, touch and out, was an open class, with 54 starters, open to all. In this class JEFF, Major Quedemeyer, got the yellow, while MOSES, Major Barry, got the white.

Class 215, Grafton broad jump, officers' horses, was won by DANDY DUDE, Major Quekemeyer.

Class 213, pair jumping by officers, was the best exhibition of this style of jumping ever seen at the show. MOSES and DECEIVE, Major Barry and Captain Gerhardt, won blue; GROUCHO and GEASMONT, Captain Thayer and Lieutenant Jones, red; ALLAHMANDE and DRAGOON, Major Patton and Captain Thayer, yellow.

The last day had but two military events. In Class 212, officers' jumping, ALLAHMANDE, Major Patton, won blue; MOSES, Major Barry, red; DATO, Major Thurman, yellow; RAVEN, Captain Bauskett, white. All these horses went clean and two jumpoffs were necessary to decide the first two places, while the third and fourth places were selected by tossing a coin, as the horses insisted on performing equally.

In Class 209, Squadron A Cup, Major Barry, on SUBMERSIBLE, scored his final triumph for the show, again getting the blue.

No account of the horse show would be complete without mentioning at least some of the many friends the army numbers among the officers of the Horse Show Committee.

These gentlemen not only made our participation possible by largely defraying our expenses, but further, by their warm and generous treatment and hospitality, make us feel that we are not only in the show, but of it.

Among so many friends and benefactors it is difficult to choose individuals, but surely none will grudge us the pleasure of naming the following gentlemen, who both now and on many occasions have particularly endeared themselves to the army participants:

Mr. Alfred B. Maclay, president, our official host and friend; Mr. R. Lawrence Smith, vice-president; Mr. Charles W. Smith, secretary, who attended to all our wants and answered all our questions; Mr. John McE. Bowman, our frequent and genial host; Mr. William H. Moore, without whom the show could not exist; Mr. Pierre Lorillard, Jr., the greatest army booster; Mr. Harry Worcester Smith, horseman, poet, rooster.

To these gentlemen in particular, to the Directors and Executive Committee, to the donors of the cups and ribbons, and to the horsemen with whom we had the honor to compete, we extend our thanks, and in wishing them half the pleasure which they gave us surely are not guilty of niggardly appreciation.

\*Note: It is possible that through inadvertence some class or name may have been omitted. If such is the case, it is the result of accident and not design. Author.

## CAVALRY WORK OF THE PUNITIVE EXPEDITION

By first Lieutenant George S. Patton, Jr.  
Tenth Cavalry

Cavalry Journal  
January 1917

“Cavalry can fight anywhere except at sea and only the fact that the horse is not web footed restricts it's prowess even there.”

The limitation of a field library prevents an exact quotation, but something like the above is the goal toward which American Cavalry has ever aspired.

Yet in spite of this glorious ideal, years spent in garrison, and frequently squadron garrison at that, had dulled our perception of the amount of effort necessary to attain our goal. Indeed, into such a state of beatific content had we settled that many of us has found his ingenuity taxed in order to occupy the meager two or three hours of daily drill with interesting and progressive instruction.

Troop, squadron, and regimental drill, with some dismounting to fight on foot and with the special drills, such as signaling, messenger service, etc., performed in a perfunctory manner under the direction of noncommissioned officers, together with target practice; was about the usual limit of our curriculum. And even these drills were handicapped by the absence of numbers of men on the endless “details” which the home posts necessitate.

It is certainly not over stating it to say that a very large proportion of the younger officers had never seen a regiment even at peace strength drill or march. Still a larger number had never participated in the maneuvers of brigades or larger units at either peace or war strength.

Hence, towards the end of July, 1916, we found ourselves at Dublan, with four regiments of cavalry and a war strength regiment of infantry and some artillery, all camped together in the midst of an unrestricted maneuver and hundreds of square miles of varied terrain we had many surprises awaiting us in the line of possibilities in training.

It is the object of this paper to show that these possibilities have been fully taken advantage of and that almost UNIMAGINED benefits have resulted.

In the month to six weeks prior to September 1st, while the regiments and lesser units were drilling under their own commanders, we had frequent occasion to observe the infantry. This observation soon brought home to us the fact that in the matter of fire tactics, involving fire direction, control and discipline, as well as in the designation of targets, and signaling, we were woefully deficient; yet not blamely so, as we can not practice what we do not know exists.

Some officers will justly resent this statement, as many cavalry men are as well up in these matters as are the infantry, but for the majority of us the statement is just.

In order to test our previous instruction and correct the deficiencies of our dismounted work, and at the same time to verify and develop the other many and varied functions of reconnaissance,

patrols, convoys, outposts, advance and rear guard, and mounted combat with pistol and saber, the Commanding General on August 31st, 1916, issued an order assigning periods of work to be devoted progressively to special training.

FIRST, was the troop and company period. During this time each troop unit in the command had work to test the application of and conformity to the Drill Regulations and the Field Service Regulations in every detail of squad, platoon, and troop leading. This end was attained by the use of simple problems dealing with some one phase of an action. The problems were devised by the squadron commanders who also acted as umpires, the regimental commander being present with different units each day. Reports of each exercise were submitted by the umpires and on compiling them at Division Headquarters, the following were the errors most frequently noticed:

- (a) Failure of advance guards to take sufficient distance.
- (b) Failure of patrols and points to report what they saw.
- (c) Lack of aggressive enterprise on the part of advance guards, i.e., men would frequently dismount on the mere report of the enemy's presence.
- (d) Lack of proper use either of signals or field glasses.
- (e) Laxity in fire control and failure of platoon and squad leaders to watch for and transmit signals.

SECOND was the squadron and battalion period. During this time each squadron unit in the command had work to test the application of regulations to the squadron or battalion as a battle unit.

The regimental commanders prepared the exercise, and together with other available officers, acted as umpires; exercises were conducted with both peace and war strength organizations; each squadron was accompanied by its combat wagon and the machine gun troop was attached to different units daily.

The results were highly instructive, as at the close of each phase of the problem, a critique was held by the chief umpire who summed up results. Both noncommissioned officers and commissioned officers were present at these talks.

From the compiled reports of the umpires made at Division Headquarters, the following were the points most frequently criticized;

- (a) Lack of sufficient distance between elements of the advance guards.
- (b) The adherence to set forms of advance or rear guards even where these did not meet the requirements of the terrain.
- (c) Failure to keep efficient communication between units, either by connecting files or by signals.
- (d) Failure of patrols to report promptly and accurately.

- (e) Lack of offensive spirit on the part of advance guards; these frequently took up defensive positions dismounted, before they had cleared the situation.
- (f) Avoidance of mounted combat even where it promised better results than dismounted action.
- (g) Lack of efficient fire control.
- (h) Misuse of the term "Advance Cavalry." This term was frequently used erroneously to designate the "Vanguard," of the advance guard of a cavalry force.

THIRD was the regimental period. The problems were prepared by the brigade commanders and the object was to improve the training in regiments and to test the use of regiments, squadrons, machine gun troops, trains, sanitary troops, and means of communication in all that pertains to combat and field service.

By combining the four regiments, two war strength regiments were available, and as many officers as possible were given the opportunity to command them.

FOURTH and last was the brigade period. By combining the four regiments, a war strength brigade was formed. All sorts of maneuvers were tried and different formations experimented with for crossing zones of artillery fire. Means for forming line for mounted charges and of assuming suitable formation from which to dismount for fighting on foot, were tried. As the experiments have been made the subject of an official report, they will not be commented upon here.

As previously mentioned in this paper, our deficiency in fire tactics dismounted, was so apparent that the Commanding General decided to make special efforts to improve it, while at the same time carrying on the other tactical training just outlined. To this end he prescribed on September 23rd, the first of a series of musketry exercises. He had paved the way for these exercises by previously having printed and issued to the command, a number of extracts taken from the School of Musketry pamphlets on "Communication," "Conduct of Fire," and "Battle Field Reconnaissance." These extracts dilated upon the points in which we were lacking and the details and application were illustrated by exercise.

Exercise "A" held on September 26th, by each troop and company in the command, was an exercise in range estimation and sight setting. As illustrative of the need of such training it may be well to mention that while the School of Musketry considers ten seconds as ample time for all the sights of a company to be set, it took quite a few troops as long as two minutes.

Exercise "B" held September 28th, by each troop and company in the command, was an exercise in target designation, by use of the vertical or horizontal clock system or finger system or any combination of the three. Also an exercise in range estimation, assignment of sectors to platoons, and fire distribution. The results showed decided lack of perfection in use of the clock system and in distribution of fire.

Exercise "C," held October 3rd, was a special exercise for all of the officers of the command. It illustrated target designation, shifting of fire, and fire distribution.

Exercise "D," held October 6th, by each troop and company in the command was a review of the preceding exercises.

Exercise "E," held October 10th, by each troop and company in the command was a review of the ABC exercises, and in addition, an exercise in the transmission of firing data to supports which filled vacancies in the line.

Exercise "F," held October 13th, by each troop and company in the command was a review and also an exercise in rates of fire. That is, the troop was ordered to fire at the rate of "N" shots to the minute, simulated fire at the enemy, at ranges varying from two hundred to twelve hundred yards. Where the number of shots would require the use of more than one clip, ten seconds were added for each recharge. A report was submitted showing true and estimated ranges, rate of fire ordered for each range, and average actual rates for each range.

Exercise "G," held October 18th, by war strength troops and companies, each regiment supplying as many as it's strength allowed, was an exercise in the use of auxiliary aiming points and a review of A, B, C and D.

Exercise "H," held October 25th, was a demonstration of visibility and vulnerability in attack formations by infantry. One war strength battalion of infantry made the demonstration and all officers and noncommissioned officers of the command were present as observers.

Other exercises will be held dealing with such points as the reinforcing of the firing line, ammunition supply, etc.

To realize fully the difficulties under which we have labored in getting this instruction, it must be remembered that during all of it we never knew at what moment we might have to break off our instruction to move to any point of the compass at the bidding of higher authority.

The greatest interest has been shown in all of the exercises.

The general and regimental commanders often stepped in and showed individual men points on which they did not seem clear or questioned them to bring out and impress on them certain important principles.

The results of these exercises have been very valuable, not only in the new things taught, but also in bringing out clearly how far from perfect was our former method of fighting of foot. That, as we all know, usually consisted in frantically signaling: 1. Flight on Foot, 2. Action Left, while the troop was in column at the gallop; followed by a wild scramble to see who would fire the first shot, usually from the hip, at an enemy whose location was never even mentioned.

It is true that occasions might arise for such haste but it is hardly probable. If a body of cavalry were so careless as to allow itself to be surprised in column at a range so close that no target designation was necessary, they would certainly be ambushed; that being so, the very worst thing they could do would be to dismount. The enemy would have all the advantage of having selected the ground and knowing the range, and even if they did not get all the horses killed before they could get them away, the men would probably never need the horses, they would be put on the defensive a false position for cavalry, and would be picked off at pleasure. No, in a case like the one outlined above, the thing to do would be to charge mounted if no obstacle prevented it. If the

charge was impossible they should gallop off to where a proper attack, either mounted or on foot, could be inaugurated. Certainly there is bound to be enough confusion in a dismounted attack even when “quietly undertaken” without dashing into it at the “four second clip” demanded by some inspectors.

From the amount of space devoted to dismounted tactics in this paper, some may be led to the erroneous belief that our training has been more that of infantry than of cavalry. Such has most emphatically not been the case. The beautiful level country invites one to practice charging and all other mounted work, and the invitation has been more than accepted. Certainly no better way can be found of expressing the end towards which our training has tended than to quote the remarks that the Commanding General made to the assembled officers at the close of one of our drills:

“The Cavalry Service Regulations say that “Mounted action is the principle method of fighting of cavalry.” By adopting that view and inserting it into the drill book, the cavalry has done itself irreparable harm. Such a declaration at once creates the impression that cavalry is no longer to be considered for dismounted work. Indeed, from the very slight reference in the regulations to dismounted fire action, the above theory seems to be accepted as doctrine. I do not subscribe to any such a narrow conception of the role of cavalry. If our cavalry is to be limited to mounted work, then it has failed to profit by the lessons of the Civil War. For open warfare, under modern conditions, it is more necessary than ever to have troops that are able to move rapidly from one place to another over any kind of country and to arrive at the point of action fit for a fight. In addition to the important functions of reconnoitering and screening, and the dashing sphere of mounted combat, the cavalry must know how to fight on foot. Perfect control of the horse and expert use of the pistol or saber are demanded for successful mounted attack, while thorough training in rifle firing and mastery of the principles of fire tactics are equally essential in the dismounted fight. Our cavalry should be prepared to fulfill both these requirements in the future, or it may expect to receive scant consideration either in or out of the service. If the cavalry is to maintain its important position in our military establishment, the ambition of every officer and man in the cavalry should be to have his arm become as effective in dismounted fighting as the best of infantry and to have it excel, in mounted work, any cavalry in the world.”

The extra space devoted to musketry in this article is due to a desire to tell other cavalymen, who have not had our advantages, what we have done in a line of work that most of us feel we have hitherto neglected. It is to let others know what is necessary to do in order to attain our ideal. To be able to fight anywhere, anytime, and to do it better than our opponent. So that should the Fates or Mars call on us to meet the thundering squadrons of a civilized foe, we may charge them with as headlong an ardor as ever animated the troops of Seidlitz or Murat; or, if we are required to hold the foe at bay while our citizens arm, we may do so as well as did the men of Forrest or DeWitt; or, if we are called on to pursue an enemy, as cruel and elusive as the coyote, we may be able to dislodge him from his mountain fastnesses with our perfected fire attack, and to saber and pistol him as he flees, vainly seeking fresh cover.

## THE CAVALRYMAN

by Major George S. Patton, Jr.

3d Cavalry  
1921

"There is always room at the top," is a favorite phrase for the advertisements of correspondence courses.

This is true in all walks of life, but in none is it truer than in regard to leaders of Cavalry.

Since the time when the increased complexity of war made the division into several arms necessary, there have been many good generals of armies, good infantrymen and good artillerymen not a few, but the good cavalrymen can be counted on the fingers of your hands.

This does not mean that the leader of cavalry must be of superior clay to his brethren of the other arms, but it does mean that he must possess a combination of qualities not often found in one individual.

He must have a passion — not simply a liking — for horses, for nothing short of an absorbing passion can make him take the necessary interest in his mount.

A diploma, even from [Fort] Riley, does no more than give a good start on the line which must be followed and developed.

He must be a veterinarian in theory and practice; a farrier and a horsehoer better than any man in his troop; a stable sergeant and horse trainer; a saddler. Above all he must possess a sense of obligation to his mount, which, with the whip of a remorseless conscience makes him — him personally — seek the welfare of his horses above his own.

No one acquires these qualities at teas or card parties, or by slapping his leg with his whip.

Such knowledge can only be acquired by reading books on horse diseases, on horse management, on conditioning, and training. By association with horsemen of all sorts and conditions wherever met. What he reads and sees and hears will not all be useful, or all correct. Much of it will be bunk, but little by little, through the years, constant research and above all, constant experimentation will lead finally to the acquirement of a little knowledge.

But, while so learning and working, he must remember that the things he is accomplishing are not ends. He is neither a stable sergeant, nor a horseshoer, nor a veterinarian; such arts are but means. The end is to become a cavalry officer who will be a success in war.

The officer who never looks after his ponies after a game to see that they are properly put away; or who at the end of a long march or hard drill says, "Sergeant, fix up the horses, I'll be back soon," and then beats it, is not building for war; is not earning his pay. He is without pride and lazy, and the men know it and despise him while neglecting the horses.



I have said that all the foregoing things must be done with the object of obtaining success in war; but why?

Because, success in war depends on getting to the right place at the right time. Neither result may be attained if the horses play out. When the great moment for which he has lived comes, all his knowledge, no matter how hard he has worked, will seem pitifully inadequate to enable him to get exhausted and half starved horses over waterless country on time. *Time*, I repeat; let him brand that word into his soul. Nearly all the remediable failures of the world result from being *late*.

Now, suppose that the officer has possessed himself of these qualities; affection for the horse; tenacity of purpose; a studious mind; a feeling of obligation and a sense of time. What are the other qualifications he must acquire?

A thorough knowledge of war by reading histories, lives of cavalymen, by the study of the tactics of his arm and by the constant working of problems. This, too, will take strength of will and hard work, but, again assuming that he has succeeded, what is the final quality which he must *acquire*?

He must rain himself into the possession of a *Gambler's Courage*.

Since General Chauvel has destroyed the idea that the horse is precluded from the battlefield, and has shown that bullets are impotent to stop determined valor, the successful cavalryman must educate himself to say **Charge!** I say educate himself, for the man is not born who can say it out of hand. There are several reasons for this.

For years, we have been taught that fire is irresistible, our experience on the target range has strengthened the myth. We picture sheets of cupro-nickel (I had almost said lead) sweeping in devastating hurricane over the field.

At maneuvers we have been taught to skip on foot from bush to rock-like sand fleas on the beach.

Civilization has affected us; we abhor personal encounter. Many a man will risk his life, with an easy mind, in a burning house, who recoils from having his face punched. We have been taught to restrain our emotions, to look upon anger as low, until many of us have never experienced the God sent ecstasy of unbridled wrath. We have never felt our eyes screw up, our temples throb, and the red mist gather in our sight.

And we expect that a man, the result of all this, shall, in an instant, the twinkling of an eye, direct himself of all restraint of all caution and hurl himself on the enemy, a frenzied beast, lusting to probe his foeman's guts with three feet of steel or shatter his brains with a bullet. Gentlemen, it cannot be done — not without mental practice.

That is why it is easier to attack on foot than to charge mounted. It seems more refined. There, in front, are those dear futile bushes of maneuvers, the bullets sing and whisper but there is more time to get used to them. It takes courage, higher moral courage to walk to death than to gallop at it. But, it is the form of courage which our civilization has given us. It is the courage of the burning house; not of the bloody nose.

Therefore, you must school yourself to savagery. You must imagine how it will feel when your sword hilt crashes into the breast bone of your enemy. You must picture the wild exaltation of the mounted charge when the lips draw back in a snarl and the voice cracks with passion.

While on the march or at horse exercise, you must say to yourself, "There is the enemy at the corner! What do I do? **Charge!!**" You must ride stiff fences, you must play polo.

When you have acquired the ability to develop on necessity, momentary and calculated savagery, you can keep your twentieth century clarity of vision with which to calculate the chances of whether to charge or fight on foot, and having decided on the former, the magic word will transform you temporarily into a frenzied brute.

To use the words which Conan Doyle puts in the mouth of his hero *Gerard*, you have equipped yourselves with, "A heart of fire and a brain of ice."

To sum up, then, you must be: a horse master; a scholar; a high minded gentleman; a cold blooded hero; a hot blooded savage. At one and the same time, you must be a wise man and a fool. You must not get fat or mentally old, and you must be a personal **Leader**.

G.S. Patton, Jr.  
Maj. 3d Cavalry

## THE CHRISTY CAR

By George S. Patton, Jr.

1929

(Written for the Hearst Papers but never submitted)

As it hurtled down the field, the roar of its four hundred horsepower motor rose to a crescendo. Ten thousand explosions to the minute tripped and crowded upon each other through the throbbing exhaust pipes to crash on the air like the demoniac scream of some charging saurian.

Nor was the bestial allusion lessened as the thing drew nearer. A sirocco of sand swirling up from its racing caterpillars all but hid the low green hull and malignant machine guns. While the great wheels supporting the tracks jerked and kicked with the spasmodic abandon of reptilian legs. Now and again, some fold in the ground would cause it to leap clear and sail through the air in fifteen foot leaps while the racing motor howled in ecstasy.

Lurching, bounding, and roaring, it sped past us to the tune of forty miles an hour. Nor could we who watched it hold our ground. The rush of this metal monster touched some hidden cord of race memory. We recoiled from it as did our skin-clad ancestors before the rush of the saber-tooth tiger or the squealing charge of the woolly rhino. Blind instinct had her will of us.

The cross country performance of this Christie armored car now tentatively adopted by our Cavalry is equaled or surpassed by its performance on wheels. Soon the tracks were removed and, handling like a fire engine, it dashed along the highway at seventy miles an hour.

Were it not for the backing we receive from the emotionless evidence of the official stop watches, we should scarcely dare to print the record of such speeds attained by an armored car — it seems too fantastic.

The tests were over, the records set, and still we stood wondering while memories crowded thick upon us. It was evening. As darkness fell, a new sound insinuated itself onto the already tortured air. From the scattered clumps of trees, from the muddy depths of ravines came hoarse splutterings, muffled explosions, then the drone of motors, and finally, a cadenced clucking — the tanks were moving.

First in long company columns, then in groups of five. When the platoons separated, the mud-soiled monsters filed through the dripping woods. In front of them, like fire flies, gleamed ever and again the shielded cigarettes of officers with which they guided their squeaking charges along the road to destiny.

Here and there, in depressing and ever increasing numbers, a machine gurgles and dies while its frantic crew, sobbing curses like apoplectic mule skinnners, wiggle and sweat to replace some refractory magneto or erring fan belt. Presently, an officer arrives to lend his muffled profanity to the task of rekindling the defunct spirit of the motor. Nothing avails until at last the overworked company mechanic, with his gang of grimy helpers, splashes up; at the touch of their magic pliers, the sleeping beast awakes coughingly and splutters forward on three cylinders. Elsewhere, a line of

moving guns bars progress, or the sacred command wires entangle themselves in the tracks and are ruthlessly cut.

Such are the tragedies of the approach march — will they ever get there? Despite appearances, they do: well before dawn the last tank is in its departure position; the motors silenced and the exhausted crews are lying beside them manfully snoring in the mud.

The respite is brief, half an hour before "H" hour they are shaken into profane wakefulness and amid wistfully whispered inquiries of, "When do we eat," perform the last rites to their machines and then climb aboard to fidget, race the motor, and wiggle the breech block until the hour strikes when, following the signal of the officers, they, "Slip her into first" — the show is on.

In the enemy lines, all is tension. Men huddle in the dugouts or crouch along the fire step while the night reels and vomits in the long agony of the opening barrage.

Here and there a flare squirts up to pierce the gloom, but to no avail; its light is quenched in the mist like a match in a bathtub — the mist hides everything. Suddenly, a string which seemingly has bound each throbbing brain snaps — the suspense is over. In the comparative quiet, men look at each other wonderingly. What is it? The barrage has lifted to the supports — the doughboys are coming.

The wet gray blanket of the all engulfing fog begins to palpitate. A sound half guessed at first, because menacingly apparent. To right — to left — in front; the sound eddies. Tock-tock-squeak-grind-tock-tock-tock — it is all pervading.

"Look Fritz, what moves there by the old trench?"

"Mine Gott, it's a tank — there's another."

"Don't shoot, you fool, or they will see us."

"Lieber Gott, what a war!"

Where they are peering a greenish-gray thing, filthy with mud and glossy with rain, slithers down the bank. There is a grinding roar as the excited driver changes gears. Then up, slowly, up until she tops the parapet. Exposing six feet of slimy belly, she teeters for a moment until, with the grace of a baby hippo, she plunges forward. Curtseying, she then wobbles on again for all the world like some huge Galapagos turtle — swaying the gun proboscis of its turret head from side to side in search of prey.

Suddenly, the watching men see a white faced officer materialize from the murk. He taps furiously on the creature's back to attract its attention and then points with his stick in their direction. Slowly, jerkily, the questing snout comes around. There is a syncopated sparkling. Pop, pop, pop — pop, pop, pop, come the reports. Fritz collapses. Another wooden cross has been awarded. At fifty feet, machine guns are dangerous.

Like the raising of a curtain, the fog lifts. The vicious chatter of the machine guns breaks out on every side. Along the banks of the Aire, on the historic hills of Varennes, crawl the tanks, nearly two hundred of them. About them burst the shells, the glibbering bullets glancing from their sides

leave honorable scars in streaks and starry splotches of nickel. In a field, a tank begins to spin around and around like a wounded rabbit, the blinded driver, unable in his agony, to control her. The views of another is momentarily obscure by a white puff changing to black. This fades and discloses a mass of twisted iron splotched with blood and brains. A shell has got home.

But, despite the crawling pace of some two or three miles an hour, such incidents are not numerous; by far, the greater number of stalled tanks, with which the fields are now dotted, are due to mechanical trouble.

The *Baby Tank*, as the French affectionately called the little Renault, was an infant in more respects than size. A true war baby, it had all the faults of adolescence; feeble, clumsy, and near-sighted, it only survived due to the indomitable will of the men who fought and tended it.

So vividly is this picture of the lumbering courage and tragic shortcomings of the earlier tanks etched in our memory by the withering alchemy of the shell burst that, on comparing it with the present vehicle, we had to pinch ourselves to see that we were really awake.

Truly, the machine has come of age. It resembles no more the wheezing fledglings of the *late unpleasantness* than does the trained race horse resemble the gangling foal.

The outstanding tactical advantages of the new care are two; 1) Speed, and 2) its ability to operate either on tracks or wheels.

To those of us who have experienced the soul-killing agony of entraining or entrucking the old machines, particularly when under fire, the road capacity of the new car is its outstanding achievement.

Due to this marching ability, it can accompany cavalry with ease and certainty. The importance of this accomplishment becomes most evident when we remember the adage that, "We march a thousand miles to every fight."

In the combat itself, the use of tracks permits it to move with certainty over many types of country and to be in a position to lend the horse soldier, not only its fire power, but also its steel-shod body in the mechanical charge.

The speed of the machine on tracks is almost of equal consequence. Throughout history there has been an endless strife between the projectile and armor. The projectile invariably wins. At sea this fact has been responsible for the production of the battle cruiser. Lightly armored and heavily gunned, she can bite deep. To avoid being bitten, she uses her speed to make her a more difficult target.

The same causes must produce the same effects on land. Guns can be made, and now exist, which can pierce any armor a machine can carry. The battle-life of the machine must therefore depend on avoidance rather than an absolute resistance. The speed and maneuverability of the new machine make it a true land battle cruiser. Its *bite and run* powers render it peculiarly apt to cooperate with cavalry.

However, its usefulness, in our opinion, does not stop here. While the added impost necessary to armor the machine as an infantry tank may slightly reduce its speed, it will still have a tremendous

margin over any other known machine. As a light gun or anti-aircraft carrier it would, again in our opinion, possess great abilities particularly as an anti-tank weapon.

Before proceeding, we will attempt to clarify the question of armor. Due to the staggering cost involved, the nations of the world are loath to change major elements of military equipment, such as, for example, the types of machine guns and rifles. At the present time, most of this type of weapon have a caliber around .30 of an inch. It is fairly easy for a machine to carry armor-proof against these bullets even when they are special armor-piercing types. On the other hand, prevention of penetrations by artillery, or by .50 or .80 caliber machine guns, or automatic cannon, requires an armor of prohibitive weight. However, to obtain penetration, even such projectiles require almost normal (that is perpendicular) incidence at reasonable ranges. Speed and maneuverability reduce the chances of such favorable conditions occurring. Again, these heavier caliber weapons are cumbersome. By forcing the enemy to use them, we reduce his mobility.

These facts make it clear that, for close combat, the infantry needs sufficiently heavy armor to require special weapons to meet it. While for the cavalry's *armored car type* we need only sufficient armor to shed non-armor-piercing .30 caliber bullets. For neither type can we build *life insurance policy* machines.

No matter how sanguine we may be as to the potency of this new weapon, it is folly to expect, from its adoption, to see violent changes in types of armies. The wrestling maxim that, "There is a block for every hold," applies equally to all forms of combat. The purpose of developing new arms and new holds, is to force the enemy to devise new counters for them — while at the same time adding to the versatility of our attack.

But, it must never be forgotten that all weapons and devices are only of secondary importance. Now, as ever, the fate of the nation depends on the heroic souls of its sons — not on the weapons they wield.

None the less, in order to justify ourselves in demanding of them the supreme sacrifice, we must, in honor, see to it that we give them every assistance which our wealth and ingenuity can provide.

Only when this is accomplished may we accept with a tranquil mind the arbitrament of battle confident that the justice of our cause and the valor of our sons shall bring us victory.

G.S. Patton, Jr.

COURSE AT THE ARMY WAR COLLEGE  
1931 – 1932

The Army War College  
Washington, D. C.

Subject: COMMAND POST EXERCISE  
Fort Dupont, Delaware  
June 2 – 11, 1932.

By Major G.S. Patton, Jr., Cavalry

The Problem of the I Red Corps and It's Solution:

The mission given the I corps was to drive back the enemy in it's front and to secure a crossing over the canal. To do this it was essential to operate rapidly. Rapid operations are based on maneuver. Since we had a more or less rough, unbroken line in front of us it was difficult to start maneuvering. On 14 May, the I Corps consisted of, from right to left, the 2d Division, 1st Division, 3d Division, on the line, from right to left, Taylor's Bridge and the Sassafras River near the place called St. Georges.

It was decided to attempt to deceive the enemy by making a two phase attack. The 2d Division, aided by 11 regiments of heavy artillery and 12 regiments of light artillery was to attack on a front of 2700 yards at five a.m. At eight forty-five a.m. The fire of all this artillery except the organic artillery of the 2d Division was shifted to the left and placed on a front of 2600 yards. After a 15 minute preparation, the 1st and 3d Divisions attacked. In order to give impetus to this attack, at nine o'clock the leading brigade of the 4th Division was moved north to Goltz, to assist in a penetration along the State line. Behind this was the cavalry and artillery of the 4th Division in trucks. The attack went forward with a very nice boating operation by the 3d Division on the left. At two p.m. two battalions of Blue Infantry repulsed two divisions of Red Infantry and it was necessary to put in the leading brigade of the 4th Division. This brigade of the 4th Division went forward to the vicinity of State line and about one mile from Warwick.

The I Corps contemplated the initiation of a night attack, but due to the imponderable conditions of the umpires minds, decided not to do it. However, a strong raid was ordered by the 4th Division during the night to see of the enemy had withdrawn, and their divisions were ordered to continue the attack at dawn. The attack continued on the 15th and by two p.m. on the 15th, the Red line had advanced to the outskirts of the Little Bohemia Creek position.

At this time it was decided by the I Corps to make an attack with the 1st and 4th Divisions about two miles to the east of the State line for the purpose of creating a penetration, and to send the cavalry through for a night operation against the canal. The point of getting the cavalry through this country deserves some attention. If it had been possible on either the 14th or 15th to make it and to get the cavalry to the canal, it is unquestionably a fact that the bridges would have been intact, because Blue could not have afforded to blow up the bridges and cut off the divisions south of the

canal. Failing this, it is obvious that a head on assault would have to be made on the canal with dubious success.

Returning to the attack of seven p.m., Army would not let it go; the Corps Commander said that he thought that he could go, but Army was adamant in adhering to standard forms of attack. In consequence, an order was issued the next morning, it really could have been labeled "Made in Germany" in which there were five divisions in line. They were the 2d on the right, the 4th and the cavalry after the 4th, and the 3d on the left of the cavalry. The cavalry and the 2d Division participated in the initial bombardment, but did not attack. After the 1st Division went forward, the 2d Division on, on it's right, moved by the left flank and came into Corps Reserve behind the 1st Division. This attack went forward with remarkable success. At two p.m. the enemy's 33d Division counter attacked our 1st Division with remarkable gallantry and great success. The operation would have probably gone as far if not farther, but the gallant 2d Division hurried forward and defeated the 33d Division of the enemy and occupied the line again.

During the period from the night of the 16th until the morning of the 20th, the Divisions constituting the II Corps were ordered up, so that the I Corps consisted of, from right to left, the 4th Division, 5th Division, and 3d Division. The 4th Division had it's right in the vicinity of Summit Bridge and it's left about two miles east of Chesapeake City. The 5th Division was in the narrow sector from the left of the 4th Division to about a quarter of a mile of Chesapeake City. The 3d Division was on the left.

The Army ordered a penetration, making the main effort in the center. In compliance with this order, the 5th Division was ordered to attack in the vicinity of a small cemetery to the right of Chesapeake City. This attack was to be supported by the converging fires of Corps Artillery. The 3d Division was to make the secondary attack, which in the opinion of the I Corps, was the primary attack, attempting to cross the line of the canal at the end of Back Neck Creek. This operation was to be conducted by the means of various subterfuges.

In the first place, during the period: Night of 17/18 to dusk of the 19th, Engineer Officers were to make aerial reconnaissances of the ruined bridges at Chesapeake City and the same operations were to be followed on the right of the 4th Division sector.

During the same period, trucks operated by expendable personnel and carrying no supplies, were to move around in a vigorous manner south of Chesapeake City and the east flank of the 4th Division. This operation was for the purpose of befuddling the enemy. Whether it succeeded or not remains to be seen.

The attack went off as seen; the 4th and 5th Divisions succeeded in crossing after following well worked out plans of operations. The 3d Division on the left succeeded in surprising the enemy, because by 2 o'clock the leading regiments had advanced twice as far as they were told to go.

At the end of this operation the 3d Division was still pushing forward, aided materially by the advance of the 5th Division supported by the 4th Division, and had gotten to the line in the vicinity of Elkton. The cavalry Division had crossed over the bridge used by the 5th Division and had gained contact with the Mechanized Brigade on the left of the 3d Division. When darkness fell the leading brigade of the 4th Division was leaping forward in trucks to end the victory.



## COMMENTS ON "CAVALRY TANKS"

By Major George S. Patton, Jr., Cavalry

Cavalry Journal  
July 1921

In response to a request for remarks on the foregoing article, I must begin by a most vigorous dissent from the writer's picture of a senile and impotent cavalry, futilely butting its head against impregnable strong points. I can agree only to the extent of admitting that a cavalry which so deported itself would certainly have no future; nor has it, when well led, had any such past in history.

Cavalry, now as always, must advance by enveloping. When the ground, as in France, was so limited as to prevent this, cavalry must await the breakthrough made by the tanks. However, western Europe is the only country small enough and with sufficient population and roads to render such a state of things possible. In other theaters of war, the constant power of envelopment which the mobility of cavalry makes possible will render strong points nothing but asylums for the safe keeping of the hostile idiots who infest them.

There are many cases, such as in raids, long turning movements, screening, etc., where cavalry is and ever will be wholly self sufficient and where the addition of mechanical devices will be more of a hindrance than otherwise. Cavalry has lived off the country and can yet do so. To it, lines of supply are unnecessary. Tanks, on the other hand, depend wholly on lines of supply for the vast tonnage of gas, oil, and spares. Without these they become merely inferior pill boxes. Hence, to attach them to cavalry on lengthy operations is to seriously demobilize the latter.

In other cases, however, such as in short turning movements, advance and rear guard work of mixed commands, counter attacks, etc., where lines of supply are not needed or already exist, tanks will be of great assistance to cavalry, combining, as they do, great mobility with concentrated firepower.

The point as to the economic impossibility of building enough tanks to constitute a mechanical army is well taken. In addition, however, to this vital objection to the ubiquitous use of tanks should be mentioned the restrictions due to unsuitable terrain and the difficulty of oversea transport. I was, and believe that I still am, as enthusiastic a tanker as ever caterpillared, yet I cannot bring myself to the point of picturing tanks, present or future, real or imaginary, as ever operating in the mountains of Mexico, the rice paddies of the Philippines, the forests of Canada, or, in face of competent artillery, on the sandy and gully infested plains of Texas. I cannot picture a large oversea force giving up that priceless commodity, deck space, to large shipments of tanks; nor can I imagine a sea born invasion so transporting them to our shores.

Tanks are a new and special weapon, newer than, as special, and certainly as valuable as the airplane. Can one imagine infantry airplanes manned by detailed doughboys; or artillery airplanes manned by wagon soldiers or cosmoline kids; or yet cavalry airplanes ridden by sturdy troopers with the use of "lateral aids"? Hardly!

The tank is a special, technical, and vastly powerful weapon. It certainly is neither a cavalryman nor an infantryman. Yet, give it half a chance, over suitable terrain and on proper missions, and it will mean the difference between defeat and victory to the infantry or cavalry with which it is cooperating.

What is wanted, then, is neither infantry tanks nor cavalry tanks, but a TANK CORPS, a special mobile general headquarters reserve, to be detailed, as circumstances demand, with whichever arm it can best cooperate.

## A DEFENSE OF THE SABER

By Second Lieutenant George S. Patton, Jr.  
\*Eighth Cavalry

Cavalry Journal  
July 1916

The incidents of the present campaign in pursuit of Villa, have led many cavalymen to reagitate the question of dispensing with the saber as part of our equipment.

An analysis, however, of the peculiar circumstances and conditions which have attended our movements in Mexico, does not seem to warrant the conclusion that the saber has played it's part in the wars of the future, and must be relegated to the functions of the pruning hook and the plow share.

Under the ordinary circumstances of war between civilized nations, the first duty of cavalry is to discover the movements of the chief columns of the enemy, and at the same time to prevent the hostile cavalry from learning the whereabouts of our main body. To accomplish this, it's dual mission, it must defeat the hostile cavalry and must do it quickly. **QUICK ACTION MEANS THE SABER!**

In the present expedition on the other hand, there have been only small bands of mounted men, and these, far from attempting reconnaissance in force, have bent every effort to avoiding detection. When discovered, they have invariably fled in all directions after a very brief resistance.

Such tactics have naturally precluded the possibility of mounted shock action. But to say that on account of certain peculiar and exceptional circumstances which have prevented it's use, the saber is now useless, is as far from the truth as it would be to say that the modern field gun is obsolete because during the present expedition into Mexico not a single shot has been fired by artillery. Witness also, the very erroneous estimate as to the future use of the bayonet, which the special conditions of the South African War at one time gave rise to, and which have now been very emphatically disproved.

It is certainly well beyond the range of things probable that our nation shall not for all time, confine it's military endeavors to the pursuit of small bands of disorganized brigands. Assuredly, we shall yet have to oppose modern armies, fully on a par with our own. Armies imbued with the spirit of vigorous aggression, trained to quick and powerful blows, and eager for quick results. If with fire action alone we attempt to meet the cavalry which will precede such an army, we will be made helpless and immobile, and will not fulfill the duties of screening and of reconnaissance for which we have been primarily created. Truly, a saberless cavalry in the face of such foes would be like a body without a soul. It is the saber and the hope of some day fleshing it in an aggressive enemy, which gives to cavalry the dash and initiative which has made history on many a field, and has inscribed so many historic names on the scroll of fame. Can mounted infantry or troops used as such produce such men at Murat, Seidlitz, Sheridan, or Stuart? No! Even though their sabers may not have drunk deep in every fight, it was the glorious traditions so nobly inscribed by the saber, which gave these cavalry leaders their immortal place in the Hall of Fame.

Before we say that the saber is no longer of use, let us carefully ponder the true story of the European War when, after it's termination, all facts are available for consideration and study.

The reports of the great conflict abroad which have hitherto reached this country, written as they are by nonmilitary observers, have at all times dwelt more with the novel, the dramatic and the spectacular incidents of the struggle, the tremendous field guns, the deadly asphyxiating gas, the liquid fire, and the wonderfully efficient aeroplanes. And yet, hand grenades, catapults, the bayonet, and the knife had been declared by all military writers to be ridiculously obsolete.

Another point which has already been mentioned by the press in accounting for the lack of news regarding the tactical use of cavalry in the war abroad, is that war correspondents have rarely had access to the distant and varied fields of cavalry combat; and perforce, they have written about the work of the guns, whose decisive effects on the battlefield, they can readily observe and appreciate. Yet their incessant chatter has made many, who should know better, think that wars can be decided by soulless machines, rather than by the blood and anguish of brave men.

In this connection the writer is in receipt of two letters from captains of French cavalry, one of whom has been decorated. Both officers state that they have used the saber and the lance, and both have seen them used with deadly effect. If the gallant infantry in the trenches dare to come to hand grips in spite of deadly gas and flame, surely the equally brave men in the saddle can and must brave the opportunities for close work with the saber.

Because of the magnificent distances which obtain everywhere on the American continent, our future wars will never be confined to the trenches. If we allow our sabers to rust in the scabbards, many a glorious opportunity will go a-begging for want of that fierce desire which has been the heritage of the cavalry man of all ages, to close headlong with the enemy, a desire which the use of the saber, and the saber alone, can develop and maintain.

\*Passed by the censor. Lieutenant Patton is at present on duty at the headquarters of the expeditionary forces in Mexico. Editor.

## THE DESERT TRAINING CORPS

By Major-General George S. Patton, Jr.

Cavalry Journal  
September – October, 1942

To all who for years have been bedeviled by arbitrary restrictions on maneuvers, the situation at the Desert Training Center is truly as inspiring as it is unusual. In the whole 12,000,000 odd acres the only restrictions as to movement are those imposed by nature. Even so, these are more accurately deterrents rather than restrictions, for, with time and perspiration, you can go anywhere.

Another point about desert training that is alluring, particularly to artillery men, is the fact that one can open fire with live ammunition or drop bombs at any time and in any direction without endangering anyone. The mountains form the backstops and the parapets. As illustrative of this, seven target ranges, two moving target ranges, two mechanized combat ranges, and a normal infantry combat range have been constructed at a total cost to the government of less than one thousand dollars.

Those people who visualize the desert as a flat expanse of glistening sand, are in for a rude awakening, for while there are ample pieces of perfectly flat desert, there are other places with rocks, mountains, and trees. In fact, while in some places one is as visible as a fly on a kitchen table, in other places there is sufficient vegetation to conceal an armored corps. There is, however, one striking difference between the cover provided in Louisiana or the Carolinas and the cover provided by the desert -- the desert does not include mosquitoes.

Another point of interest is the fact that even in open places where the sparse vegetation does not exceed two and a half feet in height, a whole combat team of armored vehicles and trucks can be so arranged as to be practically invisible from the air at possible altitudes.. By this is meant that at 2,000 feet or over, as many as three or four hundred vehicles cannot be picked up from the air if they are not moving. On the other hand, it has been found possible to pick up as small a unit as six trucks at thirty miles from 6,000 feet, when the trucks were moving.

The tactical mission of the force at the Desert Training Center has been to devise formations for marching and fighting which, while affording control and concentrated firepower, at the same time do not present lucrative air targets. It is felt that these ends have been accomplished. Formations now in use can move across country, followed by the combat train, and without halting can deploy into the attack formation and execute an attack, and at no time present any target worthy of bombardment.

There has been developed, also, a method of going into bivouac which is believed to insure protection from night attacks and from air bombardment, yet, at the same time permit a rapid formation for combat or for march. From a tactical standpoint, in addition to attempting to avoid damage from the air, the corps has specialized in combat suitable for attack on other armored units. In doing so, it has not been found necessary to deviate in any degree from the manual provided by the War Department and the Armored Force. Special cases of the general situations envisioned by those manuals have simply existed. If the platoon commanders know their duty and carry it out, and if the higher commanders maintain discipline and supply and have a rugged determination to

close with the enemy and kill him, the answer to successful combat against armored units has been found.

In all operations in the desert, the water is reduced to one gallon per man per day for all purposes. In addition, the vehicles have one to three gallons of water to place in the radiators. However, there have been strangely few occasions necessitating the addition of water to the radiators of the vehicles.

The one gallon per man has so far been more than adequate, even when we have operated for three days in succession at temperatures reaching 130 degrees in the sun. The temperature in the shade is not mentioned because here there is no shade.

In desert operations it has been insisted that all cooking be individual or by vehicle. For this purpose "C" ration, or sometimes "B" ration is used. Experience has shown that the answer to producing fire quickly and effectively in the desert is to fill an empty tin can with desert sand, gravel, or soil, up to within about an inch of the top. Soak the contents with gasoline and light it. This gives ample heat and is a fire easily controlled and easily put out.

It has been found that the liner for the new infantry helmet makes an ideal tropical headpiece. It is worn by all members of the command. An investigation of some four hundred selected individuals has demonstrated the fact that while the wearing of colored glasses is comfort-inducing, it is not necessary. Competent medical officers have observed that those who have not worn them have shown no detrimental effects.

If constant first echelon and preventative maintenance is carried on, the vehicles do not deteriorate unduly. This is surprising when it is recognized that the vehicles have been used at least three times as much as in any other station known to the writer. It is felt that this lack of mechanical deterioration is due somewhat to the fact that owing to the nature of the ground excessive speeds are impossible.

The general health of the command is remarkably good. The tendency to obesity is distinctly lacking. For instance, Sergeant "Man Mountain" Dean has, it is said, lost sixty pounds — but is still quite a figure of a man!

People are apt to think of the desert as a hot, horrid place. Actually, the heat is much less oppressive than the heat at similar times of the year in Georgia or Louisiana.

As for training, the situation is ideal. It should be remembered that from October to the end of May the weather in the desert is what babies cry for and old, rich people pay large sums of money to obtain.

## THE EFFECT OF WEAPONS ON WAR

Major George S. Patton, Jr., Cavalry

Cavalry Journal  
November 1930

When Samson took the fresh jawbone of an ass and slew a thousand men therewith, he probably started such a vogue for the weapon, particularly among the Philistines, that for years no prudent donkey dared to bray. Yet, despite its initial popularity it was discarded and now appears only as a barrage instrument in acrimonious debate.

Turning from sacred to profane history, we find it replete with similar instances of military instruments, each in its day heralded as the "dernier cri," the key to victory. Yet, each in its turn retiring to its proper place of useful, though not spectacular, importance.

Of yore, the chariot, the elephant, armor of various sorts, Greek fire, the longbow, and gunpowder, to mention only a few, were each acclaimed. Within our memory the dynamite gun and the submarine were similarly lauded. Today, the tank, gas, and the airplane are aspirants for a place on the list.

In investigating the question, let us begin by picturing, if we may, the cataclysmic effect produced on primordial society by the first savage who chanced to use a splintered rib as a means of giving point to his demands for a larger share of meat and women. How they gibbered around the half-gnawed bison as with signs and gutturals they described the fight. How their hairy bellies palpitated as into the twilight of their minds the idea flickered that they, too, might be so struck. "Romance is dead," they growled, "The day of tooth and fingernail is done."

Eons perchance rolled by before some timorous soul (?), fleeing in vain the questing menace of a prodding point, seized, in his agony of terror, a jagged stone and, squealing as he hurled it, saw the pikeman fall. Trembling, he knew that artillery was born. Continuing, it is easy to imagine the appearance of a wattled shield to fend off the stone and after the inevitable lag phase, ages long when men thought dimly, such shields, in turn, made useless by the sling and throwing stick. Another lag and then the bullhide shield restored the balance and robbed the sling and javelin of their lead. Consider how the scythe chariots were rendered innocuous by the simple means of opening the ranks to let them rattle through. Later, at Zama, similar tactics permitted Scipio to render futile the tankish charge of Hannibal's elephants; no longer a novelty and so dreaded as when Phyrus used them. Again, consider how, off Sicily the Roman Ravens (boarding bridges) confounded and destroyed the far superior Carthaginian fleet; not by their inherent value, but by their devastating effect of their novelty. They, too, quickly passed.

The long struggle between armor and weapons abounds in like examples of alternating successes. When Cortez defeated an army by a charge of fourteen horses, it was not the valor of his "caballeros," but the fear induced by the novelty of their mounts, which routed the Indians. In this case, however, the results attained are not traceable wholly to surprise. The rush of horsemen, and similarly of tanks, reawakens a submerged race memory of ancient flights before the devastating rush of long extinct carnivora. We might continue almost without limit eliciting further examples, but repetition is wearisome and enough has been said to justify us in formulating an axiom. It is;

the initial appearance of each new weapon or military device has ever marked the zenith of its tactical effect, though usually the nadir of its technical efficiency.

Surprise is the most ancient and most potent of military methods. Novelty is a form of surprise, and it is surprise (the fear of the unknown), not power, which appalls us.

The wrestling adage that there is a block for every hold applies equally to war. Each new device is invariably followed by its self-induced counter. The utilization of these new methods and their counters, these holds and blocks, is highly useful in that they add to our combat repertoire. But their employment is fraught with danger, if, beguiled by their transitory preeminence, we place our reliance wholly upon them.

It is only in the writings of the romantic novelists that we find the hero successful through the knowledge of some secret lunge. In the duel or in the fencing room, success goes to the man of many good attacks and sound parries; to the man who uses all of the means at hand for the accomplishment of the end sought, victory.

Here it is well to pause a moment to examine certain characteristics which have definitely marked the march of military evolution. From the very beginning, our gifted species has expended vast amounts of time and ingenuity in a strenuous, though futile, effort to devise safe methods of war; means of killing without being killed. Ardant du Picq sums it very aptly when he says, "Man engages in battle for the purpose of gaining victory, not for the purpose of fighting."

Defensive devices are an outgrowth of the same desire; the stone and the shield, the lance and armor, gas and the mask. Obviously the emotion back of these manifestations is love of life; an emotion which from age to age has grown stronger as the chances for its enjoyment have increased.

The hero is of truth a rarity. The most striking proof of this is found in the fact that throughout myth, legend, song, and story he has invariably shared with that other rarity, beauty, the place preeminent. Much heroism exists, but few heroes. It is rather disheartening to observe that man in his efforts to reduce danger has enhanced the requisites for courage necessary to withstand it. The sweat, noise, excitement, and bodily contact of the close encounter act as a sedative on the brain, the seat of fear. After the rush has started it takes less hardihood to charge than to sit stolidly in a ditch awaiting dissolution via the impersonal belch of a dropping shell.

In attempting to assign just valuations to the latest lethal devices, we shall not go far wrong if we keep in mind the lessons of history. In the first place, living in a mechanical age, we are prone to exaggerate the value of machines. Again, lay opinion is chiefly formed by the press, where novelty is always "front page stuff." Erroneous habits of thought also play a part. During the World War, correspondents were not allowed at the extreme front where the actual bludgeoning of war took place. Necessity imposed on them the task of making copy of what they saw; guns and machines, mostly; hence it happened that they put undue emphasis on these elements and so formed in the minds of their readers a habit of reverence for machines.

The romantic literature of the war, now as always, centers on the exploits of heroes. Unthinking people imagine that in the future all machines will be operated by these rare individuals and that the phenomenal results attained by the few will be duplicated by the many. In sport we have Sande, Tilden, and Jones, whose exceptional capabilities we admit and admire. Yet, in war we fondly



imagine whole armies of Sergeant Yorks and Guynemers. Popular antipathy to unhappy endings induces writers to have their heroes "live happily ever after," whereas, in fact, only too many citations for valor end, "For this act he was awarded a Medal of Honor, posthumous."

The use of gas as a weapon is abhorred by most civilized nations. Those who in future first resort to it may well find themselves condemned by public opinion. In short, it is against the rules. But, will such rules, such scraps of paper, deter belligerents? We fear not. When two highly paid athletes contend for honors in the squared circle they too are bound by rules; so much so in fact that of late rules have proven more potent than blows. War is not a contest with gloves. It is resorted to only when laws (which are rules) have failed. If some adversary gasses us, we can under the rules, gas him. Hence, it is not brutal, but merely intelligent, to investigate the probable future military effects of gas.

What are we to expect? Casualties, certainly; destruction, no. Gas is no more devastating to the prepared soldier than were stones to the shield guarded barbarian. It is a powerful and effective weapon, but the day of its omnipotence and the day of its birth were one. The gruesome pictures of whole populations writhing in their last agonies amidst the fumes of an all destroying vapor, are "bunk."

Setting aside the chemical difficulties and mechanical complications inherent to such an act, we have a much stronger and simpler reason for this conclusion. For centuries all wounded and such unwounded prisoners as were valueless as slaves had their throats cut. No one was shocked; it was the custom. Finally, it occurred to some altruistic and thoughtful soldier that while the practice was excellent so long as he was the victor, it had its drawbacks in the not unlikely event of his being the vanquished. The notion of humane treatment for the foe was born. Years of use sanctified the idea; it became the custom. Yet, the horrid thought pops up that help for the helpless sprang from love of ourselves, not of others; from fear of retaliation. The same situation effects the noisome idea of gassing noncombatants. It is contrary to our developed sensibilities, it will produce retaliations; it is not a safe method of war.

Shortly after the Spanish War Colonel T. R. Roosevelt wrote a book called "The War in Cuba." Mr. Dooley, in discoursing on it said, "I have but one suggestion to offer the Colonel. He should have called his book, "Alone in Cuba."

The same remark might justly be applied to those who now proclaim that the airplane should be the sole means of waging future wars. They think that they will be alone in the air. So far as a major contest is concerned, this notion is absurd. The enemy will be there, too, and it will be a case of dog eat dog. When planes attacked us in France, we hid and prayed; now we shoot back and with an ever increasing effect. There is an old saying in the army that no pursuit is so hot as that of an unresisting foe. When the foe fights back, ardor slackens. Have you ever notice the fervent manner in which a terrier chases a cat until the cat turns? Then how often he remembers that he has an immediate engagement elsewhere.

Air attacks will be numerous and bloody; such is the nature of combat. They will be no more conclusive than are the independent attacks of any of the other arms. As for bombing raids against cities, London still stands, and the inevitability of reprisals will tend to reduce still more this messy business. The airplane is here to stay. It is a great arm, but it has no more replaced all others than did gunpowder.

That fecund mother, Necessity, who at Troy produced the wooden horse, begot of the machine gun that horse's modern prototype, the tank; an identical twin to all of her preceding military offspring; the counter to the latest form of defense.

At first the tank, despite innumerable ills of childhood, enhanced in this case by premature birth, was a success. It was a surprise. As it waxed stronger it still prevailed, to a degree, due to its inherent worth. It has been likened to an armored knight. The first emblem of our tank corps was such a warrior. The similarity is too apt. So long as the knight combined movement with invulnerability he prospered. When he sacrificed mobility for protection, he passed on.

In the World War, infantry with their machine guns were impotent against tanks. Only direct hits by artillery, bad going, and above all, engine trouble, stopped tanks. Now every arm has its quota of antitank weapons which are quite effective. The terror of surprise is gone. In a major war, tanks will fight tanks. A land Trafalgar will be brief, bloody, and pyrrhic in its results.

By land and sea it is the same old story of guns and armor. We shall always have battleships, and we shall always have tanks and land destroyers, too, in the form of armored cars. Also we shall have losses. Utopia is not yet. The tank is vastly potent and rigorously limited; it is not and never has been a life insurance policy for tank gunners and drivers. It has no more the power to replace the other arms than had the long bow.

General Forrest said, "War means fighting and fighting means killing." When that grim time comes again, remember that all arms are potent, none is paramount.

We are always well aware that our efforts to prove the fallibility of weapons as a key to victory are wasted on students of history. Unfortunately, the lure of the bizarre tends to make mankind as a whole disregard its teachings. Nor is this a phenomenon confined only to things military. When sages point to the sublime inevitability of the cycles of history in morals, politics, dress, and so on, they are told, "True for you, but things have changed. We have the radio now and women vote." Similarly in matters military when we point to the endless cycle of holds and blocks we are told, "That was all true in the days of Napoleon, but now we have gas, tanks, airplanes, or what will you."

So far as we know, few, if any, victories are traceable to weapons.

Caesar destroyed the poorly armed Gauls and he did the same to the armed Legions of Pompeii.

In 1866, Prussia defeated the less well armed Austrians; in 1870, she destroyed the better armed French.

Advertisements to the contrary notwithstanding, Big Business does not owe its bigness to a filing system (a business weapon).

Already in this article we have made use of part of Napoleon's magnificent definition of genius. Here it is in full. He says, "Genius is the ability to utilize all the means at hand for the accomplishment of the end sought."

The thought applies equally to weapons. We must use them all. To us it seems that those persons who would scrap the old and rely only on the new are on a mental parity with the poor man who

pawns his shirt and trousers to buy an overcoat, only to find that it is burdensome in summer and not wholly satisfying even in January. Wars are fought with men, not weapons. It is the spirit of the men who fight, and the spirit of the men who lead, which gains the victory. In biblical times this spirit was ascribed, probably rightly, to the Lord. It was the Spirit of the Lord, courage, which came mightily upon Samson at Lehi that gained the victory. It was not the jawbone of an ass.

## FEDERAL TROOPS IN DOMESTIC DISTURBANCES

By Major George S. Patton, Jr., Cavalry

November 1932

When I was a cadet, all plebes were required to memorize the definition of leather, which, if time has not dulled my memory, ran thus, "If the fresh skin of an animal be divested of hair and other extraneous matter and be immersed in a saturated solution of tannic acid, chemical combinations occur which transform the hide into a fibrous tissue insoluble in and impervious to water; this is leather."

Similarly, when the subject of this conference is immersed in the cerebral fluid of Regular Soldiers, it emerges not theory, but tactics.

The chemistry of legal phraseology and erudite philosophy which produce these tactics are in fact as little germane to our work as are the metamorphoses of the tanning vat.

Since, however, no picture is wholly satisfactory without a background, we shall make a brief examination of the historical and legal aspect of the subject before entering upon it's tactics.

### HISTORICALLY:

Scarcely was Washington inaugurated than the need for federal intervention in domestic disturbances became emphasized by the so called "Whiskey Rebellion." From that episode until the present time, federal troops have been called out more than a hundred times to participate in these most distasteful forms of service. While the majority of these incidents were insignificant, some dozen of them reached major proportions. Of these we may mention the following;

The "Dorr Rebellion" in Rhode Island in 1842; the Abolition disturbances in Kansas between 1854 and 1858; the railroad strikes of 1877, extending through West Virginia, Maryland, Pennsylvania, Ohio, and Indiana; the Chicago strike of 1894; the San Francisco fire of 1906; the West Virginia coal strikes of 1921; and lastly, the "Bonus War" of 1932

We, of the Army, should take pride in the fact that not once in all of these cases have our predecessors either failed or been guilty of unnecessary violence. It must be our aim to maintain this proud tradition whenever it shall be our unfortunate duty to be called on for such onerous service.

Remember that when the Army has done it's duty, liberty has flourished and that when it has failed, riot has changed into rebellion. Indeed, the epitaphs of those countless nations dead of the suicide of insurrection should bear these words, "DIED THIS DATE DUE TO THE FAILURE OF IT'S SOLDIERS."

When under Marius, Rome's first regulars blotted out in blood the mobs roused by those generous and misguided brothers, the Grachae. She prospered and from a debating society became the mistress of the world and so remained until, at last, the venal and disloyal Pretorian Guard "sold the purple" to the highest bidder and thereby destroyed the power that no foe could conquer.

When the foolish and genial Louis XVI lost his head and the Seine ran crimson to the sea, the fault lay not with the people, but with the soldiers. Yet less than ten years later, Napoleon with a “whiff of grape shot” destroyed the mob and saved, only to usurp, the directorate.

As General Knox clearly shows, the success of the Bolsheviks in 1917 was due wholly to the hesitating and weak character of the Russian officers. While in Germany, on the other hand, a loyal and well lead army destroyed the course of communism before it could ever raise it's ugly head above the ruins of a war weary nation.

It is a curious fact that despite the ill usage which English speaking nations have habitually accorded to their regular army members in peacetime, these “Brutal and licentious Mercenaries” have never yet bit the hand which starved them, nor failed in any way to support constituted authority. Even in the Civil War when more than twenty percent of the officers went south, not a single enlisted man deserted the flag.

#### THE LEGAL ASPECT:

Due to the combined effect of ignorance and careless diction, there is widespread misunderstanding of the principle terms used in connection with the enforcement of law by military means. Now while the particular name appropriate to the type of duty in the performance of which he is killed makes very little difference to the corpse, it is desirable that officers should know enough to select the proper word with which to head a report or proclamation.

The three terms most frequently used are; Military Government; Martial Law; and, Duty in Connection with Domestic Disturbances.

MILITARY GOVERNMENT supplants and replaces the laws heretofore existing in enemy territory which is occupied by our military forces. General Scott initiated our system in Mexico in 1847. To carry out his rule under this system, he invented the two forms of court we now recognize as appropriate; namely, Military Commissions for the trial of major civil and criminal crimes, and Provost Courts for the trial of minor offenses.

Military Government has also been exercised by the United States in Cuba, the Philippines, Vera Cruz, and lastly in occupied Germany.

MARTIAL LAW supplants and possibly replaces to a limited extent the laws heretofore existing in our own territory in cases where the civil authority being ineffective, the State or National Government, through it's military forces, controls the civil population without the authority of written law, but as necessity may require.

Wellington put it aptly when he said, “Martial Law is not law at all, it is merely the will of the commander.”

From the Federal viewpoint, and this is the one which interests us, Martial Law can be used by the President or by a Military Commander where, in the case of foreign invasion, security and national defense demands it. (See Jackson at New Orleans in 1814). Or in the case of a rebellion, it may be used by order of the President, in disaffected territory or in border states. (See New Mexico, Kentucky, and Maryland during the Civil War).

While I am no lawyer, it seems to me that Martial Law would also be appropriate to any serious disturbance in the District of Columbia.

In passing, it should be noted that in accordance with its definition, Martial Law will be more frequently used by individual States than by the United States.

#### DOMESTIC DISTURBANCES:

The use of Federal Troops in this case differs from the two previous examples in that; the military is used not to displace existing laws, but to sustain them when, by reason of obstructions, their effectual administration by normal legal methods becomes impossible.

#### SOURCES:

The authority for the use of Federal Troops in Domestic Disturbances is derived from the following sources;

##### The United States Constitution:

Article I. Section 8, provides that, "Congress shall have powers to raise and support armies . and to provide for the calling forth of the Militia to execute the laws of the Union, suppress insurrection, or to repel invasions."

Article II. Sections 2 and 3 provide that, "The President shall be the Commander in Chief of the Army and Navy of the United States, and of the Militia of the several States when called into the service of the United States and that he shall take care that the laws are faithfully executed."

Article IV. Section 8 provides that, "The United States shall "Guarantee to every state in this Union a republican form of government," "Protect each of them against invasion," and "Protect each of them against domestic violence (on application of the legislature, or of the executive when the legislature cannot be convened)."

##### Other Federal Statutes:

R.S.5297 provides, "In case of insurrection in any State against the government thereof, it shall be lawful for the President, on the application of the legislature of such State, or of the Executive, when the legislature cannot be convened, to call forth such number of the militia of any other state or states . as he deems sufficient to suppress such insurrection, or . such part of the land and naval forces of the United States as he deems necessary."

R.S.5298 provides, "Whenever by reason of unlawful obstructions, combinations or assemblages of persons, or rebellion against the authority of the United States, it shall become impracticable, in the JUDGMENT OF THE PRESIDENT, to enforce, by the ordinary laws of judicial procedure, the laws of the United States within any State or Territory, it shall be lawful for the President . to employ such part of the land and naval forces of the United States as he may deem necessary to enforce the lawful execution of the laws of the United States ."

R.S.5299 provides, “Whenever insurrection, domestic violence, unlawful combinations, or conspiracies in any State so obstructs or hinders the execution of the laws thereof, and of the United States, as to deprive any portion or class of the people of such State of rights, privileges, or immunities, or protection named in the Constitution . and the constituted authorities of such State are unable or unwilling, or refuse to protect the people in such rights . or whenever such insurrection, etc., opposes or obstructs the laws of the United States or the due execution thereof . it shall be lawful for the President, and it shall be his duty, to take such means . by the employment of the land and naval forces of the United States, as he deems necessary . for the suppression of such insurrections, etc.”

R.S.5300 provides, “Whenever, in the judgment of the President, it becomes necessary to use the military forces under this title, the President shall, forthwith, by proclamation, command the insurgents to disperse and retire to their respective abodes, within a limited time.”

Army Regulations:

Army Regulations under No. 50050 “Employment of Troops” and “Enforcement of the Laws” cover the subject quite fully.

Section I. Recites the statutes and penalties concerning the use of troops as a “posse comitatus.”

Section II. In addition to quoting the constitutional and statutory authorities already referred to, this section gives a long list of sundry other acts of Congress authorizing and defining the use of Federal Troops in special cases, most of which are now practically impossible of occurrence.

These statutes cover; Public Lands, Peonage, Public Health, Indians, Extradition, Neutrality, Guano Islands, and Customs.

The section then goes on to specify the actions governing the use of Federal Troops in the Philippines, Puerto Rico, Alaska, and Hawaii.

These statutes are identical in spirit and in general specify that; the Governor may call on the Commanders of Military or Naval forces of the United States to prevent or suppress lawless violence, invasion, insurrection, or rebellion. Further, if the public safety demands it, he may suspend the Writ of Habeas Corpus or place the islands or a part of them under Martial Law. Provided, “That whenever a Governor exercises any of the above authorities he shall at once notify the President of his act and of the reasons for it.”

Section III of A.R.50050 specifies the procedure governing the use of Federal Troops in Domestic Disturbances.

Par.5. Application for Troops, specifies:

a. “Application for the use of troops should originate with the civil authority. This application should be made to the President. In case the application is made by civil authority directly to a local commander; Such commander, whenever time admits, must forward the application to the War Department, with a statement of all material facts, for the consideration and action of the President.”

b. Emergency, “In the case of sudden and unexpected invasion, insurrection, or riot, endangering the public property of the United States, or in case of attempted or threatened robbery or interruption of the United States mails, or other equivalent emergency so imminent as to render it dangerous to await instruction . an officer of the army may take such action before the receipt of instruction as the circumstances of the case . justify, and will promptly report his action, and the circumstances requiring it to the Adjutant General . for the information of the President.”

Par.6. Proclamation:

Here is repeated the requirement of R.S.5300.

Par.7. Command:

a. “In the enforcement of laws, troops are employed as a part of the military power of the United States and act under the orders of the President as Commander in Chief.”

b. “They cannot be directed to act under the orders of any civil officer.”

c. “The commanding officers of troops so employed are directly responsible to their military superiors.”

d. “Any unlawful or unauthorized act on their part would NOT be excusable on the ground of an order or request received by them from a Marshall or any other civil authority.”

Par.8. Tactical:

a. “Troops called into action against a mob forcibly resisting or obstructing the execution of the laws of the United States or attempting to destroy property belonging to, or under the protection of, the United States are governed by the general regulations of the Army and apply military tactics in respect to the manner in which they shall act to accomplish the desired end.”

b. “It is a purely tactical question in what manner they shall use the weapons with which they are armed; whether by fire of musketry and artillery, or by the use of the bayonet and saber, or by both, and at what stage of the operations each or either mode of attack shall be employed. This tactical question shall be decided by the immediate commander of the troops, according to his judgment of the situation. The fire of troops SHOULD be withheld until timely warning has been given to the innocent who may be mingled with the mob. Troops must never fire into a crowd unless ordered by their commanding officer, EXCEPT that single selected sharp shooters may shoot down individual rioters who have FIRED UPON or THROWN MISSILES AT the troops. As a general rule, only the bayonet (or saber) should be used against mixed crowds in the first stages of a revolt, but as soon as sufficient warning has been given to enable the innocent to separate themselves from the guilty, the action of the troops should be governed solely by the tactical considerations involved in the duty they are ordered to perform. They should make their flow so effective as to promptly suppress all resistance to lawful authority, and should stop the destruction of life the moment lawless resistance has ceased. Punishment belongs not to the troops, but to the courts of justice.”

Training Regulations:



As strange as it may seem, this loquacious document is very reticent on Domestic Disturbances. All it has to say is found in T.R. 105, par.9, "Troops of the combat branches, in addition to their training for war, will be trained in the tactics for the suppression of domestic disturbances, the guiding method to be employed being a demonstration of force, followed, if necessary, by its application in a speedy and decisive manner."

#### Habeas Corpus:

This is the next item that rises to plague us. Habeas Corpus is a writ issued by a judge and sent to the custodian of a prisoner directing that the custodian present the body of the prisoner in the court so that judgment may be passed as to whether or not the arrest and restraint are legal.

If a state or municipal judge serves a regular officer holding a prisoner with such a writ the officer should politely inform the court, in writing, that he holds the prisoner by the authority of the United States government and therefore is not amenable to the writ. If the writ is served on him by a federal judge, it is his duty to produce the prisoner at the time and place directed. When the writ is suspended, of course, this statement does not apply.

#### Legal Liability:

After an emergency is over, officers and men who have been engaged in the suppression of riots, etc. are liable to both civil and criminal prosecution for acts they have performed or are alleged to have performed.

If they have acted under orders of the President their defense is clear. If due to the gravity of the emergency, they have acted on their own responsibility, their defense rests on the plea of necessity.

As a matter of fact, no officer need bother his head or modify his actions due to fear of this academic danger, for a leading legal authority points out, "In no instance, so far as I am aware, has an English or American jury allowed an officer or soldier to suffer for acts done with any shadow of right in repelling invasion or quelling a mob."

Let me recapitulate the lessons of history and law.

#### Historically:

Throughout history good soldiers have quelled riots and often as a result have achieved promotion and fame. Bad soldiers have failed and as a result their countries have perished.

#### Legally:

As junior officers, we simply obey the orders of our superiors. As independent commanders there is a very remote possibility that we may have to back our judgment with our commissions. Officers in command of troops on riot duty should remember the following points;

1. Take no orders from civil officials; federal, state, or municipal.

2. Take no orders from National Guard or Reserve officers unless they have been mustered into the federal service and you have proof that they are so mustered.
3. You may and should cooperate with police or state troops who may be present; but you and not they are the judge of the amount and character of this cooperation. In the "Bonus War," for example, certain people strongly urged Major Surles to move several blocks out of his way to attack a building. Had he done so, he would have gotten in a lot of trouble as the house in question was full of women and children. It was my belief, and I see no reason to change it, that this advice was given with the deliberate intention of producing embarrassment to the Army.
4. Get your orders in writing. If the orders are dictated, that is oral, commit them to writing, read them back to the issuing officer, and ask him to initial them. If this is not practicable have several witnesses sign the orders and state that they heard them issued. Save that order. Some people have strange memories when it is necessary to pass the buck.
5. Before firing at a mob, warn them of your intention and tell innocent people to leave. Ask several members of your command to note the time and place at which you issued the warning.
6. Designate in advance certain sharpshooters to kill individual rioters who fire on or throw missiles at your men. Have this firing done ONLY on your order or that of a commissioned officer; at least in the first instance.
7. Get the names of several men who saw the shooting or throwing. Usually such witnesses are easy to find.
8. Should some orator start haranguing the crowd and inciting them to violence, grab him even if it brings on a local, small fight. Small fights are better than big ones. Words cunningly chosen change crowds into mobs.
9. If you have captured a dangerous agitator and some "misguided" federal judge issues a writ of Habeas Corpus for him, try to see the judge to find out what he is liable to do. If he seems prone to releasing the man, let your conscience be your guide. The legal phrase, "To present the body of the prisoner to the court," has a sinister and suggestive sound. There's always a danger that the man might attempt to escape. If he does, see that he at least falls out of ranks before you shoot him. To be soft hearted might mean death to your men. After all, WAR IS WAR.
10. Do not enrage reporters, but also, don't tell them too much or boast of your prowess to them. They dislike tear gas and are not provided with masks.
11. Finally, do your full duty as you see it and damn the consequences. Lord Allenby once said to me in speaking of his suppression of the riots in Cairo, "I have always thought that it is far better that a certain number of innocent students should perish than that the future of a great nation should be jeopardized."

#### TACTICAL ASPECTS:

During the foregoing, I have tried to give you what may be called the "Law and the Prophets" of Riot Duty. While this investigation is of interest, it is hardly vital. Tactics, which we shall now examine, are the real heart of the subject.

Due to the usual conservatism of the Federal Government, Federal Troops are seldom, if ever, called into action until conditions have gotten very seriously out of hand. Hence, when we arrive, force is the only alternative. This being so, the study of CROWD TACTICS is superfluous. However, should we arrive before real violence has started, it is well to remember that if we can prevent the formations of CROWDS, then MOBS cannot be born.

Under favorable circumstances, crowds can be dispersed by strong patrols and may be kept from reforming by the same method. However, the officer attempting such a line of action must see to it that an adequate and mobile support is immediately available for should the crowd suddenly get violent, and destroy a patrol, it must be instantly punished, or else it will develop a false sense of power and then it will become very dangerous.

The most pertinent criticism I have heard about the "Bonus War" came from a little bookkeeper in Boston. He said, "Wasn't it just like Hoover! First he would do nothing and let the crowd think it was some pumpkins, then he used force just too soon. Had he waited another day, buildings would have been burned and people killed. Then when he sent in the Army everyone would have been for him."

In order to stop a riot we must get to the scene of trouble, usually a city.

There are three methods of approach. By rail, by bus, or by marching.

In approaching by rail, be sure that there are no sympathizers at the entraining point who may attempt to interfere with your embarkation. If there is any possibility of this, entrain outside the railroad yards at some siding which may be easily guarded.

Upon arriving near your destination, stop in ample time to detrain outside the yards which, since they are invariably situated in the slums, will be hotbeds of disorder. When the train stops at the point selected by you, establish an outpost to cover the debarkation.

While the railroad officials are in theoretical charge of the train, have an officer located on the engine who will stop the train on signal from you. Have a pull cord, or else rig a buzzer for this purpose.

If there is the least likelihood of attempts to dynamite the track, have several flat cars pushed ahead of the engine and have an officer with a machine gun on the leading car, protected by sand bags. Under such circumstances, examine all trestles, bridges, and tunnels before entering.

When approaching by truck, have an advance guard in Armored Cars or protected trucks precede the main column. Do not enter the city in trucks because in such a case you are helpless. Detruck well outside in the open and establish an outpost at once.

When approaching by marching, put out security detachments in time. Have two trucks, with machine guns mounted, following the tail of advance guard so that any hostile attempt to disrupt the march by motor cars rushing the column may be dealt with.

Information:

As in all military operations, information is vital. By the use of detectives, soldiers in civilian clothes, and friendly citizens, get all possible information about the condition within the city. In particular, locate on a map the position of public utilities, banks, commercial districts, residential districts, armories, sporting goods stores, and other places of importance. Also the general focal points of the disturbance and the names of the leaders. It may be desirable to fly over the city to become oriented. If fired upon while in the air, reply at once with small bombs and machine gun fire.

From the information secured, arrange your axis of approach so as to drive the mob into the poor quarter and away from vital areas.

Weapons:

The use of gas is paramount. It may be used by hand grenades with a range of 25 yards, rifle grenades with a range of 250 yards, or bombs and stokes mortars. While tear gas is effective, it should be backed up with vomiting gas.

Although white phosphorus is incendiary, it is useful in forming a screen for the attack of barricades and defended houses.

Next in order of importance come the saber, the bayonet, and the club. In the case of dismounted troops, do not close in on a mob with the bayonet or club if you are largely outnumbered. If the mob refuses to disperse, give them a fixed time, perhaps five minutes. Call the minutes so they can hear. If they are unheeding, lob some gas into the rear of the crowd at exactly the end of the period. If this fails to move them, open fire with one man per squad for a frontal attack while at the same time have men in houses shoot into the rear ranks selecting apparent leaders. Always fire for effect. Due to over shooting of the battle sight at short range, caution the men to fire at the knees of the crowd. If it is necessary to use machine guns, aim at their feet. If you must fire, DO A GOOD JOB. A few casualties become martyrs; a large number becomes an object lesson.

With mounted men even small numbers may charge with impunity with the saber. At first use the flat side, but if real resistance occurs, use the point and try for lethal effect near the belt line. Never allow a man to be pulled from his horse. If this happens, use pistols and give a GOOD lesson.

Artillery fire may be used against barricades or defended buildings or with shrapnel cut at zero to clear streets in really serious fighting.

Tactics:

In general, never halt, except to give warning with a time limit and act instantly at the end of the period specified. Never permit a mob to gain a success. Should they do so, make instant and vigorous reprisals. When a mob starts to move, keep it on the run but always leave it a line of retreat; a cornered rat will fight desperately, while on the other hand, movement to the rear engenders panic.

In an attack, move first against the flanks via side streets using cavalry. While this action is in progress, start a rear attack also with cavalry but don't push it home. Finally, make the frontal attack.

Tanks are useful against barricades or for forcing doors of houses but they must be closely supported by infantry as they can be rushed and destroyed by gasoline. Such a success encourages a mob.

#### Street Formations:

In moving to the scene of trouble, secure guides and avoid poor or disaffected quarters. Use security detachments with reduced distance.

As you get close to the enemy, send two squads along each side walk. The first man looks to the front, the second in file looks to the opposite side of the street. The third man is responsible for doors and windows on the first floor on his side of the street. The fourth man watches second story openings on the opposite side of the street. The remaining men watch upper stories and roofs on the opposite sides of the street. When reaching a cross street, look down the street and then get the leading squads across. When the main body arrives, send a squad down the side street one block to prevent flank fire while the main body is crossing. This squad rejoins the rear of the column, hence, should be detailed from the rear company.

If an enemy is met in a street, deploy completely across the street in close order and direct him to fall back, unless he is in equal or smaller numbers, in which case keep moving and use the bayonet to encourage his retreat. If they are running, a few good wounds in the buttocks will encourage them. If they resist, they must be killed.

As stated above, the frontal attack should follow flanking and rear operations.

If the enemy occupies a park or square, use normal methods of attack with emphasis on flanks and rear.

If he is barricaded, the effect of modern rifle fire is so great that he can usually be shot out of the barricade with direct fire, aided by gas and offensive grenades. In the face of very serious resistance, and lacking artillery, it may be necessary to use roof detachments paralleling the head of the column along the roofs. Firemen, if available, should accompany these detachments with ladders and breaching equipment. It may be necessary to fight down to the street through the houses on the flanks of the obstacle. In such operations, gas dropped down stair wells is effective.

In any operation keep a strongly formed reserve and if the need arises, use it ruthlessly.

#### On The Defensive:

When guarding buildings, mark a "DEAD" line and announce clearly that those who cross it will be killed. be sure to kill the first one who tries to cross it and to LEAVE HIM THERE to encourage the others.

#### Avoid Night Attacks:

When on the defensive use lights to illuminate the front. Automobile headlights are best as their power cannot be cut off.

If your intelligence is effective, you will soon learn where the leaders gather; a night raid on such a place will be most useful. No prisoners should be taken.

Conclusion:

Never take a drink at anytime or allow your men to do so. Close all drinking establishments. This is illegal, but necessary; public opinion will sustain you.

Warn newspapers, theaters, and churches that if they encourage the mob, they are guilty of aiding them and that their leaders will be held personally accountable. Freedom of the press cannot be construed as "license to encourage" the armed enemies of the United States of America. An armed mob resisting federal troops is an armed enemy. To aid an enemy is TREASON. This may not be "law," but it is fact. When blood starts running, law stops. By the fact of bloodshed, law has demonstrated it's futility.

A brief statement regarding the "Bonus War" will be of interest first because in it every precept herein set down was violated or disregarded, and secondly because so swift is the flight of time, that soon no officer who participated in it will remain here at this post.

The "Bonus Army," variously estimated at from 10 to 25 thousand men, congregated in Washington, D.C. during the early spring of 1932. The first arrivals were housed in some abandoned buildings near 4th Street and Pennsylvania Avenue, N.W. Later arrivals were housed south of the Avenue in the same general vicinity. Then, a large camp was established just north of the Air Field on the so-called "Anacostia Flats."

Owing to total misconception of Mob Psychology, General Glasford, the then Chief of Police of Washington, D.C., temporized with the marchers. As time went on, they violated more and more laws and regulations, and finally marched on the Capitol and the White House. By a trick, they were kept out of the Capitol. The police stopped the White House Column. By the same trick, Congress adjourned. There was no reason for the marchers to stay any longer so many of them went home. Others simply cashed the tickets given to them for their return trips and stayed on in the Capitol.

In my opinion, the majority of them were poor, ignorant men, without hope, and without really evil intent; but, there were several thousand bad men and many "weak sisters" who joined them.

Finally, the Treasury, to whom the buildings at 4th Street and Pennsylvania Avenue belonged, decided to evict the marchers so that contractors could destroy the buildings. The marchers refused to move. The police were called in and being used in a halfhearted manner, failed to do anything except to lose two policemen and to kill a couple of marchers.

For some weeks prior to all of this, the federal troops here were held at the Post at Fort Myer in readiness to move. The horses had been practiced in moving against mobs and the men were equipped with gas masks and a few gas grenades.

On July 28th, about 2:30 p.m. the 3d Cavalry, with a platoon of five Renault tanks, was ordered to move at once to the scene of trouble. The leading troop arrived in forty minutes. Notice should be made that we moved in column of fours without security detachments; the tanks in trucks, followed by themselves at about one mile behind. No outpost was established. We dismounted at

the trouble area at the end of an hour. The battalion of the 12th Infantry from Fort Washington arrived in trucks having come right through the "Bonus Camp." After a pause of another hour, the troops were ordered to march up Pennsylvania Avenue and to clear it as far as 3rd street. So far as I know, this was the only order issued for the first operation. The cavalry moved first in column of troops with the tanks in trucks between the last two troops. The infantry followed in column of fours. The avenue was a sea of people. It took us half an hour to clear them out and we had to use force. As we passed the occupied buildings, the marchers cheered us and called, "Here come our buddies." The civilians in the crowd hissed us; in a mild way.

After a halt of half an hour at 3rd Street, the infantry put on their gas masks and while advancing in assault formation in two waves, used gas grenades to begin clearing the buildings. At first, the marchers seemed surprised, then some ran while others tried to throw the smoke candles and grenades back at the troops. Soon the gas began working and they all ran. Then they formed along the second Street south of the Avenue. Major Surles then moved his cavalry to push them on. We were doing very well when the infantry halted to reform and the mob, mad by now, began getting around the right of our line. Those in our front were very nasty and brandished clubs, iron bars, and bricks. They cursed us in a most wholehearted manner. The soldiers were magnificent. They sat grimly on their horses and made no reply except to poke an occasional marcher who tried to grab a horse by the head. Things kept looking worse as the infantry was still not up with us and our flank was turned. Suddenly, without a word of command, the whole line surged forward. Bricks flew, sabers rose and fell with a comforting smack, and the mob ran. We moved on after them, occasionally meeting serious resistance. Once, six men in a truck threw a regular barrage of bricks at us, several men and horses were hit. Two of us charged at a gallop and had some nice work at close range with the occupants of the truck, most of whom could not sit down for some days.

The Cavalry, moving via the streets, and the infantry, through the shacks, pushed the crowd to the railroad yard, where all resistance ended.

It was then decided to capture the camp at night. The men were fed and General MacArthur came up to gave explicit orders for the operation.

When we crossed the bridge at the Navy Yard, the infantry was in front. They had to use grenades to force the spectator crowd out of the way.

The cavalry formed at the north end of the camp with it's right flank on the river while the infantry moving south along the edge of the water turned by the left flank and started to clear the camp. At this moment we were ordered to halt because the marchers said that if they were given an hour, they would withdraw. During this hour many left, but some set fire to their tents.

When the time was up, the infantry moved forward in a long line of skirmishers using grenades from time to time. If during this operation a single shot had been fired, many would have died, for in the dark on a flat plane, fire discipline could not have been maintained and there was no cover.

It speaks volumes for the high character of the men that not a shot was fired. In justice to the marchers, it should be pointed out that had they really wanted to start something, they had a great chance here, but refrained.

In closing, it seems to me that this was the first, and I fear the last, time in which the Regular Army acted against a crowd rather than against a mob. In spite of faulty methods, the high training and discipline of the soldiers and officers secured a complete and bloodless (mostly) triumph by which its success prevented a war and insured the election of a Democrat.



## THE FORM AND USE OF THE SABER

By First Lieutenant George S. Patton, Jr.  
Tenth Cavalry

Cavalry Journal  
March 1913

At first sight it seems rather curious that, though the saber has been a component part of our cavalry equipment ever since the beginning, its use and form has never been given much thoughtful consideration. When we consider, however, that for years the only target practice our troops had was when the old guard fired the loads from their muskets, our negligence in acquiring other knowledge seems less strange. It was through the personal interest and excellence of individual officers and men that attention to target practice was first introduced. I have been informed by some of these gentlemen that at first they were met by obstructionists and the cry of "let well enough alone." They persisted, however, and as people began to see the results they accomplished they ceased to hinder, and rapid and wonderful progress both in the rifle and in the manner of its use have followed.

It now seems that the turn of the bayonet and saber has arrived. But to gain any prominence it must be supported by some personal interest on the part of officers and men which, when applied to the rifle, has given us the greatest shooting arm in the world. Yet, however essential this interest may be it is difficult to excite it with our present saber and methods of instruction.

As to the form of the saber, there seems to have been an age long controversy between the advocates of the edge and those favoring the point. Beginning with the 11th Century, from which time accounts are fairly consecutive, we find as follows:

When scale, and later chain, armor became sufficiently perfected to completely cover the body, the point went out of use because it was quite impossible to thrust it through the meshes, while by giving a violent blow, it was possible to break or cripple an opponent's arms or ribs without cutting the armor.

When the German Mercenaries in the Italian wars began to wear plate, the Italians found the edge of no avail and returned to the point which they thrust through the joints of the crude plate armor. Gradually armor became so well made that neither the point nor edge affected it, but about this time the bullet began to put the armor out of business.

While the armor was being eliminated, so-called light cavalry was evolved. These men wore no armor, and since the Cossacks, Poles, and Turkish horsemen were the only examples of the unarmored horse which men had to copy, and since these inherited from the Arab a curved scimitar-like saber, the new light cavalry was mostly armed with a curved saber. The weapon adopted was, however, an unintelligent copy. The scimitar of the Oriental was a special adapted for cutting through defensive clothing made of wool wadding and to be used in combats when the opposing horsemen fought in open formations circling each other and not in ordered lines trusting to shock.

The sword given to most of the light cavalry troops was not of sufficient curvature to give the drawn saw-like cut of the scimitar and yet was curved sufficiently to reduce its efficiency for pointing. It may also be noted that the scimitar was not used for parrying and could not be, having neither guard nor balance. All the parrying was done with a light shield. But this lack of balance and the curved form of the weapon must not be considered as essential to a cutting weapon, for the long, straight, cross-handled sword of the Crusader has a most excellent balance, about two inches from the guard. Yet this weapon was probably the one of all time capable of striking the hardest blow.

The present saber of our cavalry is almost the last survival of the incorrect application of the mechanics of the scimitar. It is not a good cutting weapon, being difficult to move rapidly. It is not a good pointing weapon, being curved sufficiently to throw the point out of line. Yet it is clung to as fondly as was the inaccurate Civil War musket and the .45 Springfield with its mule like kick.

The tenacity evinced for the retention of an illogical weapon seems without basis in history, while from the same source we find numerous tributes to the value of the point. Verdi du Vernois says, "Experience has shown that a sword cut seldom, but a point with the sword always, throws a man off his horse."

In the Peninsula War the English nearly always used the sword for cutting. The French dragoons, on the contrary, used only the point which, with their long straight swords caused almost always a fatal wound. This made the English say that the French did not fight fair. Marshal Saxe wished to arm the French cavalry with a blade of a triangular cross section so as to make the use of the point obligatory.

At Wagram, when the cavalry of the guard passed in review before a charge, Napoleon called to them, "Don't cut! The point! The point!"

To refute this and much more historical approval of the point and the present practice of all great nations, except Russia, the advocates of the so called cutting weapon say that we are practically a nation of axmen. It is doubtful, however, if many of our men have ever handled an ax or are descendants from those who have. The tendency of the untrained man to flourish his sword and make movements with it simulating cuts is to be found in other nations. In France, noted for its use of the point, I witnessed within the last year several hundred recruits, when first handed sabers, thrashing about with them as if they were clubs, but no sooner were they taught the value of the point than they adopted it and never thereafter returned to the edge.

The child starts locomotion by crawling, but on this account do we discourage walking? The recruit flinches and blinks on first firing a gun, but he is certainly not encouraged to continue this practice. Why, then, should the ignorant swinging about of a sword be indicative of its proper use? It is in the charge that the sword is particularly needful, and, in fact, finds almost its whole application, and it is here that the point is of particular advantage in stimulating to the highest degree the desire of closing with the enemy and running him through.

In executing the charge with the point, according to the French method, the trooper leans well down on the horse's neck with the saber and arm fully extended and the back of the hand turned slightly to the left so as to get the utmost reach. This also turns the guard up and thus protects the hand, arm, and head from thrusts and the hand from cuts. The blade is about the height of the horse's ears, the trooper leaning well down and in the ideal position slightly to the left of the horse's

neck. In this position he can turn hostile points to the right by revolving his hand in that direction, the point of his weapon still remaining in line and he himself covered by the guard of his saber. The pommel of the saddle and the pommel pack, such as is on our new saddle, protects the thighs and stomach from points deflected downward. Cuts would fall on the shoulder or across the back where they would be hindered by clothing and to little harm. The head can be protected by ducking it below the horse's crest. Moreover, since the point will reach its mark several feet before a cut could be started, there is little danger of its being dealt. Should it be necessary to attack an opponent on the left, the arm is brought over the horse's neck and the hand rotated further to the left, keeping the guard before the face. In this position the parry for the point is either up or to the left.

Another advantage of this position is that while pushing forward to close, only half the human target visible in our present position of charge is exposed, and that in urging the horse to speed the best results are attained with the weight carried forward as described. To use the edge it is necessary to sit erect and in the act of dealing a cut the trooper is completely open either to cuts or thrusts. Moreover, his reach is shortened at least three feet, for the cut to be effective must be dealt with the "forté" of the blade which starts about eight inches from the point and in a position to cut the trooper also loses the entire reach of his extended body and arms.

The point is vastly more deadly than the edge, for while it might be possible to inflict a crippling blow with the edge were the swing unrestricted by the pressing ranks of the charge or by the guard or attack of an adversary, yet with both of these factors added to the necessity of so starting the cuts as to reach its mark after making due allowance for the relative speed of approach of the two contestants; the size and power of the blow becomes so reduced that there is grave doubt if it would have sufficient power to do any damage to an opponent's body, protected as it is by clothing and equipment. And even should it reach the fact, its power to unhorse is dubious.

The use of the point, on the other hand, is not restricted by the press of the ranks and its insinuating effect is not hindered by clothing or equipment. The exaggerated idea of the effect of a cut which prevalent in our service is due possibly to the fact that when a man wants to demonstrate it he rides or walks up to a post, and with plenty of time to estimate distance and with his swing unimpeded by companions on either hand, he can expend all of his power and attention to chopping at his mark. Also, in our so called fencing, mounted or dismounted between enlisted men, the touch with the point which, were it sharp, would introduce several inches of steel into its target, is hardly felt, while blows with the edge often cause considerable bruises, though were these sharp it is doubtful if they would do more.

It is also well to remember that were one of our lines, charging as at present, to run up against a line charging with the point, our opponents' weapons would reach us and have ample opportunity to pass through us before we could be even able to start a cut in return. Were we, on the other hand, while using the point, to encounter men using the edge, we in turn would have them at our mercy. In the melee which follows a charge, there is less objection to using the edge, for the horses will be going at less speed and things will probably open up. At least, there will be no rank formation and a man can chop away as ineffectually as he likes, though here, too, the point would be more deadly. In the pursuit there is little choice between the edge and point, though it might be a little easier on the horses to stick a man when he is several feet ahead than to be forced to ride almost abreast of him to deal a cut. Moreover, a man can parry a cut from behind while continuing his flight, but in order to parry a thrust he must stop and turn. Still, with the straight sword under consideration by the War Department, cuts can be more effectually made than they could with our

present saber, as the new sword is better balanced for rapid cutting and is very sharp on both edges. Of course, this weapon is distinctly a cavalry arm, and it would not effect the equipment of the infantry or artillery.

In instructing the trooper in the use of the saber, he is never allowed to fence with beginners but is assigned to a noncommissioned officer or an instructed private who teaches him the mechanism of the thrust and the idea of parrying with the blade while keeping the point in line and always replying to an attack with a thrust. Later, he is allowed to use occasional cuts, but he is always impressed with the idea of thrusting. This instruction will give him facility in the use of his weapon and impress him with an aggressive spirit. He is then placed on a wooden horse and first taught the position of charge, mounted, and how to parry with his blade while in the charging position without getting his point out of line for his opponent's body. He is then placed on horseback and taught to take the proper position and later to run at dummies of considerable weight. In running at dummies, there is no jabbing with the arm. The blade is kept still and the horse does the work. All the man has to do is to direct his point, which operation is facilitated by the fact of his having his blade along the line of sight. Later he is taught to use his weapon against adversaries on his right and left as in a melee. In teaching this he is first allowed to go slowly, but having learned the mechanism he is thereafter required to go fast and is never permitted to slow up or circle. He rides at a man to kill him, and if he misses, he goes on to another, moving in straight lines with the intent of running his opponent through.

As to the question of recovering his sword thrust into an opponent, it is not difficult with a dummy when the latter is given any flexibility at all, and when a man has been run through he is going to be pretty limp and will probably fall from his horse, clearing the weapon for you. It would seem, then, that the straight sword possesses all of the advantages of the curved sword for cutting, besides admitting of the proper use of the point, which the other does not, and that in using the point in the charge not a single advantage of the edge is lost, while many disadvantages are overcome. In addition, the highest possible incentive to close with the enemy is given.

Finally, many of our possible opponents are using the long straight sword and the point in the charge. To come against this with our present sabers and position of charge would be suicidal.

HEADQUARTERS  
THIRD UNITED STATES ARMY

APO 9563  
U. S. Army

6 March 1944

SUBJECT: Letter of Instruction No. 1.  
TO: Corps, Division, and Separate Unit Commanders.

1. GENERAL

This letter will orient you, officers of the higher echelons, in the principles of command, combat procedure, and administration which obtain in this Army, and will guide you in the conduct of your several commands.

2. COMMAND

a. Leadership

(1) Full Duty.

Each, in his appropriate sphere, will lead in person. Any commander who fails to obtain his objective, and who is not dead or severely wounded, has not done his full duty.

(2) Visits to the front.

The Commanding General or his Chief of Staff (never both at once) and one member of each of the general staff sections, the signal, medical, ordnance, engineer, and quartermaster sections should visit the front daily. To save duplication, the chief of staff will designate the sector each is to visit.

The function of these staff officers is to observe, not to meddle. In addition to their own specialty, they must observe and report anything of military importance. Remember, too, that your primary mission as a leader is to see with your own eyes and to be seen by the troops while engaged in personal reconnaissance.

b. Execution

In carrying out a mission, the promulgation of the order represents not over 10 percent of your responsibility. The remaining 90 percent consists of assuring, by means of personal supervision on the ground, by yourself and your staff, proper and vigorous execution.

c. Staff Conferences

Daily, at the earliest possible moment that the G2 and G3 can get their maps posted, a staff conference will be held, attended by the Commanding General, the Chief of Staff, and the heads of

all general staff sections, the Surgeon, the Signal Officer, the Ordnance Officer, the Engineer Officer, and the other special staff heads when called on. Also present at this conference will be the staff officers described in paragraph 2a(2) above, who visited the front on the previous day. Any person present with a statement to make will do so briefly (n.b. if a staff inspector saw anything during his visit to the front requiring immediate action he would have reported the fact to the Chief of Staff immediately on his return). The Commanding General then gives his intentions and the Chief of Staff allocates the sectors for the day's staff inspectors.

#### d. Rest Periods

Staff personnel, commissioned and enlisted, who do not rest, do not last. All sections must run a duty roster and enforce compliance. The intensity of staff operations during battle is periodic. At the Army and Corps levels the busiest times are the periods from one to three hours after daylight, and from three to five hours after dark. In the lower echelons and in the administrative and supply staffs, the time of the periods is different but just as definite. When the need arises, everyone must work all the time, but these emergencies are not frequent; "unfatigued men last longer and work better at high pressure."

#### e. Location of Command Posts

The farther forward the Command Posts are located the less time is wasted in driving to and from the front. The ideal situation would be for the Army Command Post to be within one half hour's drive in a Command and Reconnaissance car of the Division Command Post. The driving time to the front from the Command Post of the lower units should be correspondingly shorter.

Much time and wire is saved if Command Posts of higher units are at or near one of the Command Posts of the next lower echelon.

All Command Posts of a division and higher units must have at least two echelons; the forward one, and that is the one referred to in this paragraph (e), should be kept as small and mobile as possible with the minimum amount of radio traffic.

### 3. COMBAT PROCEDURE

#### a. Maps

We are too prone to believe that we acquire merit solely through the study of maps in the safe seclusion of a Command Post.

Maps are necessary in order to see the whole panorama of battle and to permit intelligent planning.

Further, and this is very important, a study of the map will indicate where critical situations exist or are apt to develop, and so indicate where the commander should be.

In the higher echelons, a layered map of the whole theater to reasonable scale, showing roads, railways, streams, and towns is more useful than a large scale map, cluttered up with ground forms and a multiplicity of non essential information.

## b. Plans

Plans must be simple and flexible. Actually they only form a datum plane from which you build as necessity directs or opportunity offers. They should be made by the people who are going to execute them.

## c. Reconnaissance

You can never have too much reconnaissance. Use every means available before, during, and after battle. Reports must be facts, not opinions; negative as well as positive. Do not believe intercepts blindly, cross-check, sometimes messages are sent out to be intercepted.

## d. Orders

### (1) Formal Orders

Formal orders will be preceded by letters of instruction and by personal conferences. In this way the whole purpose of the operation will be made clear, together with the mission to be accomplished by each major unit. In this way, if communication breaks down during combat, each commander can and must so act as to attain the general objective. The order itself will be short, accompanied by a sketch, it tells WHAT to do, not HOW. It is really a memorandum and an assumption of responsibility by the issuing commander.

### (2) Fragmentary orders

After the initial order, you will seldom get another formal order, but you will get many fragmentary orders in writing, or orally, by phone or personally.

Take down all oral orders and repeat them back. Have your juniors do the same to you.

Keep a diary with all orders and messages and the resulting action pasted in sequence.

Keep your own orders short, get them out in time, issue them personally by voice when you can. In battle it is always easier for the senior officer to go up than it is for the junior to come back for the issuance of orders.

A division should have twelve hours, and better, eighteen hours, between the physical receipt of the order at Division Headquarters and the time it is to be executed.

### (3) Warning Orders

Warning orders are vital and must be issued in time. This requirement applies not only to combat units, but also to the Surgeon, the Signal Officer, the Quartermaster, the Ordnance Officer, and the Engineer Officer who must get warning orders promptly. They, too, have plans to make and units to move. If they do not function, you do not fight.

Orders, formal or otherwise, concerning units further down than the next echelon of command are highly prejudicial.

#### (4) Keep Troops Informed

Use every means before and after combats to tell the troops what they are going to do and what they have done.

### 4. ADMINISTRATION

#### a. Supply

##### (1) General

The onus of supply rests equally on the giver and the taker.

Forward units must anticipate needs and ask for supplies in time. They must stand ready to use all their means to help move supplies.

The supply services must get the things asked for to the right place at the right time. They must do more; by reconnaissance they will anticipate demands and start the supplies up before they are called for.

The DESPERATE DETERMINATION to succeed is just as vital to supply as it is to the firing line.

##### (2) Replacements

Replacements are spare parts, supplies. They must be asked for in time by the front line, and the need for them must be anticipated in the rear. An educated guess is just as accurate and far faster than compiled errors. During lulls, you can balance the account. Keep your combat units full. A company without riflemen is just as useless as a tank without gasoline.

##### (3) Hospitals

Evacuation or Field Hospitals must be kept close to the front. Visit the wounded personally.

#### b. Decorations

Decorations are for the purpose of raising the fighting value of troops, therefore they must be awarded promptly. Have a definite officer on your staff educated in writing citations and see that they get through.

#### c. Discipline

There is only one kind of discipline; PERFECT DISCIPLINE. If you do not enforce and maintain discipline you are potential murderers. You must set the example.

### 5. RUMORS



Reports based on information secured through reconnaissance conducted after dark should be viewed with skepticism. The same thing applies to reports from walking wounded and stragglers. These latter seek to justify themselves by painting alarming pictures.

It is risky and usually impossible to move reserves during darkness on every call for help. Units cannot be wholly destroyed in a night attack. They must stick. Launch your counter attack after daylight and subsequent to adequate reconnaissance, and see that it is coordinated.

## 6. CONDITION

High physical condition is vital to victory.

There are more tired corps and division commanders than there are tired corps and divisions.

Fatigue makes cowards of us all. Men in condition do not tire.

## 7. COURAGE

DO NOT TAKE COUNSEL OF YOUR FEARS.

A handwritten signature in black ink, reading "G S Patton Jr." with a stylized, cursive script.

G.S. Patton, Jr.  
Lt. Gen., U.S. Army  
Commanding

HEADQUARTERS  
THIRD UNITED STATES ARMY

APO 403  
U. S. ARMY

3 April 1944

SUBJECT: Letter of Instruction No. 2

TO: Corps, Division, and Separate Unit Commanders

I. GENERAL

1. This letter stresses those tactical and administrative usages which combat experience has taught myself and the officers who have served under me to consider vital.

2. You will not simply mimeograph this and call it a day. You are responsible that these usages become habitual in your command.

II. DISCIPLINE

1. There is only one sort of discipline; perfect discipline. Men cannot have good battle discipline and poor administrative discipline.

2. Discipline is based on pride in the profession of arms, on meticulous attention to details, and on mutual respect and confidence. Discipline must be a habit so ingrained that it is stronger than the excitement of battle or the fear of death.

3. The history of our invariably victorious armies demonstrates that we are the best soldiers in the world. This should make your men proud. This should make you proud. This should imbue your units with unconquerable self confidence and pride in demonstrated ability.

4. Discipline can only be obtained when all officers are so imbued with the sense of their awful obligation to their men and to their country that they cannot tolerate negligences. Officers who fail to correct errors or to praise excellence are valueless in peace and dangerous misfits in war.

5. Officers must assert themselves by example and by voice. They must be preeminent in courage, deportment, and dress.

6. One of the primary purposes of discipline is to produce alertness. A man who is so lethargic that he fails to salute will fall an easy victim to an enemy.

7. Combat experience has proven that ceremonies, such as formal guard mounts, formal retreat formations, and regular and supervised reveille formations are a great help and, in some cases, essential to prepare men and officers for battle, to give them that perfect discipline, that smartness of appearance, that alertness without which battles cannot be won.

8. In the Third Army, when troops are not in the actual combat zone nor engaged in tactical exercises, or range firing, etc., Corps and separate Division commanders will see:

a. That regular reveille formations be held, in attendance at which there will be a minimum of one officer per company or similar unit, and in addition thereto when practicable, a minimum of one field officer per regiment or separate battalion.

b. That it shall be customary for all organizations to hold formal retreat under arms. Attendance, in addition to the prescribed enlisted men, shall be all officers of company grade. In the case of regiments and separate battalions, a minimum of one field officer.

c. That in the case where music is available and it is practicable from a billeting standpoint, frequent regimental and battalion retreat parades and similar ceremonies will be held.

d. That unit and organizational guard shall be performed strictly in accordance with FM 265. When music is available, formal guard mounts will be held frequently.

e. That officers in formation wear a uniform analogous to that worn by the enlisted men, and that all officers participate in all drills and marches at all times with their organizations or units. This includes marching to and from training areas and ranges.

9. Officers are always on duty and their duty extends to every individual, junior to themselves, in the U. S. Army, not only to members of their own organization.

10. Americans, with arms in their hands, are fools as well as cowards to surrender. If they fight on, they will conquer.

11. Cases of misbehavior before the enemy will be brought before General Court Martial and tried under the 75th Article of War. It has been my experience that many Courts Martial are prone to view this most heinous offense, for which the punishment of death may be inflicted, in too lenient a manner. They should realize that the lives of troops are saved by punishment of initial offenders. Cowardice is a disease and must be checked before it becomes epidemic.

### III. TACTICAL USAGES

#### 1. General

##### a. Combat Principles:

(1) There is no approved solution to any tactical situation.

(2) There is only one tactical principle which is not subject to change. It is, "To so use the means at hand to inflict the maximum amount of wounds, death, and destruction on the enemy in the minimum of time."

(3) In battle, casualties vary directly with the time you are exposed to effective fire. Your own fire reduces the effectiveness and volume of the enemy's fire, while rapidity of attack shortens the time of exposure. A pint of sweat will save a gallon of blood!

(4) Battles are won by fighting the enemy. Fear is induced by inflicting death and wounds on him. Death and wounds are produced by fire. Fire from the rear is more deadly and three times more effective than fire from the front, but to get fire behind the enemy, you must hold him by frontal fire and move rapidly around his flank. Frontal attacks against prepared positions should be avoided if possible.

(5) "Catch the enemy by the nose with fire and kick him in the pants with fire emplaced through movement."

(6) Hit hard soon, that is with two battalions up in a regiment; or two divisions up in a corps, or two corps up in an army; the idea being to develop your maximum force at once before the enemy can develop his.

(7) You can never be too strong. Get every man and every gun you can secure, provided it does not unduly delay your attack. The German is the champion digger.

(8) The larger the force and the more violence you use in an attack, whether it be men, tanks, or ammunition, the smaller will be your proportional losses.

(9) Never yield ground. It is cheaper to hold what you have than to retake what you have lost. Never move troops to the rear for a rest or to reform at night, and in the daytime only where absolutely necessary. Such moves may produce a panic.

(10) Our mortars and our artillery are superb weapons when they are firing. When silent, they are junk. See that they fire!

#### b. Tactical Rules in Particular Subjects:

(1) Use roads to march on; fields to fight on. In France we will find roads mined or demolished in many places, certainly when we approach the enemy. When that happens, get off the roads and keep moving. But when the roads are available for use, you save time and effort by staying on them until shot off.

(2) Troops should not deploy into line until forced to do so by enemy fire.

(3) When you are advancing in broken country against possible tank attacks and using the leap frog method described in my Sicilian Notes, be sure to keep the antitank guns well up.

(4) In mountain country secure the heights. This is best done by daylight reconnaissance followed by night attack of a platoon reinforced at dawn twilight.

(5) In forcing a pass secure the heights first. There are always trails leading to the rear of hills. Remember that inviting avenues of approach are invariably defended, and an advance by such lanes, without securing the heights covering them, is suicidal.

(6) The effect of mines is largely mental. Not over 10 percent of our casualties come from them. When they are encountered they must be passed through or around. There are not enough mines in the world to cover the whole country. It is cheaper to make a detour than to search;

however, the engineers should start clearing the straight road while the advance elements continue via the detour. See that all types of troops have mine detectors and know how to use them. You MUST, repeat, MUST get through!

(7) Never permit a unit to dig in until the final objective is reached, then dig, wire, and mine.

(8) Slit trenches in artillery will be placed within ten yards of guns. They will not be placed under trees as these induce air bursts. Camouflage nets must be rigged so that when they catch fire they can immediately be pulled off.

(9) Take plenty of time to set up an attack. It takes at least two hours to prepare an infantry battalion to execute a properly coordinated attack. Shoving them in too soon produces useless losses.

(10) In battle, small forces (platoons, companies, and even battalions) can do one of three things; go forward, halt, or run. If they halt or run, they will be an even easier target. Therefore, they must go forward. When caught under fire, particularly of artillery, advance out of it; never retreat from it. Artillery very seldom shortens its range.

(11) Security detachments must get out further, and must stay out at night. One radio car well off the road, but where it can see the road, or where a member of the crew can observe the road from close quarters, can send information which will be vital.

(12) We are too slow in putting out minefields and in wiring in positions for all around defense. More training should be devoted to mine laying and mine removal.

(13) A battalion of 4.2 chemical mortars, when available, should be attached to an infantry division. An infantry regiment in combat should have a 4.2 chemical company attached.

### c. General Training

(1) More emphasis will be placed on the hardening of men and officers. All soldiers and officers should be able to run a mile with combat pack in ten minutes and march 8 miles in two hours. When soldiers are in actual contact with the enemy, it is almost impossible to maintain physical condition, but if the physical condition is right before they gain contact, it will not fall off sufficiently during contact to be detrimental.

(2) Much time is wasted in mounting and dismounting mortars and machine guns. Standing gun drill will be practiced so that the operation will be automatic and can be accomplished in the dark. The ladder method of ranging with mortars is recommended.

(3) Our ability to fight at night, as opposed to moving into position at night for a dawn attack, is pitifully bad. We must learn to execute the attack in the dark.

(4) Sharpen axes, pickaxes, and shovels now and keep them sharp.

(5) Battles are fought by platoons and squads. Place emphasis on small unit combat instruction so that it is conducted with the same precision as close order drill. A good solution applied with vigor NOW is better than a perfect solution ten minutes later.

(6) In instruction from the squad to the regiment, sand tables should be used, and the officer or noncom being instructed should give the actual orders he will give in combat. Sand tables need not be complicated. A piece of ground in the lee of a building is just as good and much simpler.

(7) Officers and men must know their equipment. They must train with the equipment they intend to use in battle. Equipment must be in the best operational condition when taken to the Theater of Operations.

#### d. Guides for Officers

(1) Officers must possess self confidence and the confidence of their men. Two of the best ways of producing this is meticulously conducted close order drill, conducted by officers, and platoon marches of 48 to 60 hours during which the platoon is wholly on it's own.

(2) In the first actions, new troops must receive aggressive leadership by all grades, including general officers who must be seen in the front line during action.

(3) The Adjutant General or Secretary to the General Staff must keep for the immediate information of the Commanding General a list showing casualties, materiel losses, prisoners of war, captured materiel, and replacements of both men and materiel received. Two lists are necessary. The first one based on rumor; the second one corrected by data. The first one will be found surprisingly close to the second one.

(4) Note the time of your requests for, and time of arrival of, all artillery and air support missions called for. If support fails to arrive, so note.

(5) There is a universal failure to repeat oral orders back. This failure is certain to result in grave errors.

(6) Messages and orders must use concise, military verbiage.

(7) Push wire communications to the limit. A wire phone is worth three radios for both speed and security.

(8) Battalion and company commanders fail to use runners and "walki-talki" radios. They frequently fail to have runners with or near them.

(9) Military Police at road junctions must have a map or diagram showing the points to which various roads lead and the units to be found on them.

(10) Don't place large radio sets near CP's if the CP's are to be in position more than six hours. If radios must be used for longer periods, put them well away, scatter them, and use remote control.

e. Prisoners

(1) German prisoners over 40 talk more easily than the younger ones. They must be examined, separately, and not returned to the cages where the young ones are. Prisoners other than Germans usually talk freely and inaccurately. They, too, should be examined out of the hearing of, and later separated from, the young Nazi's.

f. Needless Firing

(1) The needless firing of artillery will be checked by the senior artillery officer.

g. Needless Requirements

(1) There is a tendency for the chain of command to overload junior officers with excessive requirements in the way of training and reports. You will alleviate this burden by eliminating non essential demands.

2. infantry

a. Infantry must move in order to close with the enemy. It must shoot in order to move. When physical targets are not visible, the fire of all infantry weapons must search the area probably occupied by the enemy. Use marching fire. It reduces the accuracy of his fire and increases our confidence. Shoot short. Ricochets make nastier sounds and wounds. To halt under fire is folly. To halt under fire and not fire back is suicide. Move forward out of fire. Officers must set the example.

b. The heavy weapons set the pace. In the battalion the heavy weapons company paces the battalion. In the regiment the cannon company paces the regiment, but it is the function of the rifles and light machine guns to see that the heavy weapons have a chance to move. In other words, the rifles and machine guns move the heavy weapons in to do the killing.

c. Mortars use great quantities of ammunition. The 81mm will fire 800 rounds and a 60mm 500 rounds in 24 hours. To provide this ammunition, transport of all kinds must be utilized, and infantry riflemen in the vicinity of the mortars should each carry one round which they can dump at a pre-designated spot on going into the fire fight. When not on the move, all mortars, machine guns, and antitank guns of the infantry must be emplaced to fire.

d. Antitank guns should be placed where they cannot see or be seen beyond their lethal antitank range unless they are being used in the role of light artillery.

e. Few men are killed by the bayonet; many are scared of it. Bayonets should be fixed when the fire fight starts. Bayonets must be sharpened by the individual soldier. The German hates the bayonet and is inferior to our men with it. Our men should know this.

f. The M1 rifle is the most deadly rifle in the world. If you cannot see the enemy, you can at least shoot at the place where he is apt to be.

g. Flat trajectory fire against machine guns must be delivered near and parallel to the axis of enemy fire. This pins him down until the grenadiers with bomb and bayonet can kill him from behind.

h. Fire distribution is practically nonexistent in our army, with the result that those portions of the enemy who are visible receive all the fire, while those portions who are not visible, fire on our men with perfect impunity. This defect will be corrected.

i. The infantry battalion is the smallest unit which can be sent on a separate mission. When so used, it always is desirable to reinforce it with artillery, antitank guns, AA guns, and if possible, tanks and engineers.

j. Armored infantry should not attack mounted, it should use its vehicles to deploy mounted and also to assemble from deployed formation.

k. Night attacks mean attacks during darkness or by moonlight. On moonless nights the attack should start two and a half hours before dawn twilight; on moonlight nights with the moon. Night attacks must be preceded by careful day reconnaissance and ample warning. Limited objectives must be sought and must be easily recognizable in the dark. Attack formation is in column or line of columns. Distances and intervals are reduced. Depth is necessary.

l. Supporting fires must be arranged first to attack the enemy after our infantry has been discovered, and second to destroy counter attacks at dawn. Assaulting columns are preceded by a security detachment, which in turn is preceded by a patrol. The security detachment and patrol are absorbed when contact is made. In addition to the assaulting columns, a reserve should be available for exploitation after daylight. Countersign and challenge and identification marks on helmet or sleeve are necessary. Land marks and compass bearings to objective are necessary. Offensive grenades should be used. When discovered, open rapid fire and make as much noise as possible, while rushing in to use the bayonet.

m. The defense will consist of mutually supporting small groups arranged in depth and completely wired in. Mines will be placed.

n. All infantry officers must be able to observe and direct artillery fire.

### 3. Artillery

a. 65 to 75 percent of all artillery targets are provided by forward observers. The same percentage of tactical information originates with these observers, but much of the information of both characters the observers get, comes from the infantry. Therefore the forward observer must be in intimate association with the infantry. He must be under the control of the artillery liaison officer with the battalion. Artillery officers with infantry do not return to their batteries at night.

b. As soon as a position is captured, the forward observer must report through the liaison officer which of the possible channels of hostile counter attack he is in a position to cover with observed fire. This information must go to the infantry battalion commander.



c. Observers must be able to operate both by day and night. Use any caliber of gun at any time to hit any target of opportunity. For this reason forward observers for large calibers must be up.

d. Artillery observers on their own initiative will bring fire on enemy weapons firing on our infantry. Infantry officers are equally responsible to call for such fire.

e. Machine guns giving local protection to artillery must be sufficiently far out to prevent small arms fire from bothering the battery.

f. Construct dummy batteries. In choosing sites for them, avoid places where fire directed at them will adversely effect other arms.

g. Tank attacks can be stopped by artillery concentrations of white phosphorus and high explosives.

h. Artillery will be emplaced as far forward as possible and will move forward at every opportunity.

#### 4. Armor

a. The primary mission of armored units is the attacking of infantry and artillery. The enemy's rear is the happy hunting ground for armor, use every means to get it there.

b. The tactical and technical training of our armored units is correct. Added emphasis should be put on tank crew training with a view to hitting the enemy first.

c. Against counter attacks, the offensive use of armor striking the flank is decisive. Hence, a deep penetration by infantry, whose rear is protected by armor, is feasible and safe.

d. There is no such thing as "tank country" in a restrictive sense. Some types of country are better than others, but tanks have and can operate anywhere.

e. The integrity of armored divisions should be preserved through the use of GHQ tank battalions for special close supporting missions with infantry. On such missions the tanks should advance by bounds from cover to cover in rear of the infantry. They will only be exposed when the situation demands their intervention. In such cases they will attack in close association with the infantry.

#### 5. Reconnaissance

a. Reconnaissance, particularly on the part of the infantry must be stressed, especially at night. It is necessary to secure information every night through the capture of prisoners and the observation of hostile actions. Good men must lead these patrols. Mechanized observation units should not be employed for security except in cases of dire emergency.

b. Junior officers of reconnaissance units must be very inquisitive. Their reports must be accurate and factual. Negative information is as important as positive information. Information must be transmitted in the clear by radio and at once. The location of the unit giving the

information should, where possible, be in a modified code. The enemy should be located by a magnetic azimuth and range from the point of observation. All members of a reconnaissance unit should know what they are trying to do. The results of all reconnaissance obtained in front of one division must be transmitted to adjacent units.

c. Reconnaissance must not lose contact. At night, when not in contact, listening posts should be at least six miles in front of our lines. Day reconnaissance must be pushed until contact is made. The use of light tanks in night reconnaissance usually induces the enemy to fire and display his position.

#### IV. Anti-Aircraft and Anti-Tank

##### 1. Anti-Aircraft

a. At least one, preferably self propelled, AA weapon should be attached to each company or battery of artillery, infantry, or tanks. There should be two at headquarters from the division up. The 155 and larger guns should have at least the AA mounts per battery. Owing to our air superiority, AA should never open fire until attacked. AA is also good for antitank.

##### 2. Anti-Tank

a. Towed antitank guns should be well to the front and located to cover likely avenues of enemy tank approach. They must be emplaced so that they cannot see or be seen beyond their lethal antitank range. Self propelled antitank weapons should be held in reserve to intervene against enemy armored attacks. They should locate routes to and firing positions from probable sites of future activities. All antitank guns should be trained to fire as artillery and be provided with a large proportion of high explosive shells.

#### V. MAINTENANCE

1. Weapons will be kept in perfect order.

2. Preventive maintenance will be enforced. Particular attention should be given to tire pressure, lubrication, battery voltage, and water in radiators. Vehicles will be serviced and made operational before their crews rest. Vehicles will be marked in accordance with paragraph 614, AR 8505.

#### VI. CARE OF MEN

1. Officers are responsible not only for the conduct of their men in battle, but also for their health and contentment when not fighting. An officer must be the last man to take shelter from fire, and the first to move forward. Similarly, he must be the last man to look after his own comfort at the close of a march. He must see that his men are cared for. The officer must constantly interest himself in the rations of the men. He should know his men so well that any sign of sickness or nervous strain will be apparent to him, and he can take such action as may be necessary.

2. He must look after his men's feet, see that they have properly fitting shoes in good condition, and that their socks fit; loose or tight socks make sore feet. He must anticipate change of weather and see that proper clothing and footgear is asked for and obtained.

3. Field and evacuation hospitals must be kept as close to the front as enemy fire permits. The shorter a haul of the wounded man to the hospital the better his chances for recovery.

4. Hospitals should be placed in the open and clearly marked. Do not permit liaison planes or groups of vehicles to park near them. Such action gives the enemy an excuse for attacking.

5. The successful soldier wins his battles cheaply so far as his own casualties are concerned, but he must remember that violent attacks, although costly at the time, save lives in the end. He must

remember that replacements need special attention and he must see that they get acclimatized to their new units as quickly and harmoniously as possible

A handwritten signature in black ink, reading "G S Patton, Jr." with a stylized flourish at the end.

G.S. Patton, Jr.  
Lt. Gen., U.S. Army  
Commanding

HEADQUARTERS  
THIRD UNITED STATES ARMY

APO 403  
U. S. ARMY

20 MAY 1944

SUBJECT: Letter of Instruction No. 3  
TO: All Corps and Division Commanders

I. USE OF ARMORED DIVISIONS

1. The tactics prescribed for the use of armored divisions are correct, but owing to a lack of understanding of the word "Blitz," certain things are over emphasized, and other very much more important things do not receive sufficient emphasis.

2. To begin with, haste and speed are not synonymous. By this I mean that hasty attacks do not produce speedy successes or speedy advances because hasty attacks are not coordinated attacks. "Haste makes waste."

3. In an armored division, as in an infantry division, attacks must be coordinated; and the infantry, and the tanks, and the guns must work as a unit. Wherever possible, it is desirable that the guns operate under divisional control, and with their forward observers in tanks, immediately take under fire enemy antitank guns, and either reduce them or blind them with smoke or white phosphorus. Success depends upon the coordinated use of the guns and the tanks, with the guns paying particular attention to hostile artillery, and above all to antitank guns and observation posts.

4. The decision of whether the assault should be led by the infantry or the armored vehicles depends on circumstances. When operation against known antitank guns or against extensive antitank mine fields, or where it is necessary to force a river crossing or a defile, the infantry must lead and the tanks follow as and when the situation is cleared.

5. When operating against small minefields or minefields composed of boot or other "S" type mines, or against normal infantry and artillery resistance, the tanks should lead. However, it is necessary to remember that the association between tanks and infantry in the case of armored divisions operating as such is not as intimate as that which I prescribed in "Tactical Use of Separate Tank Battalions." Still, cases will arise where tanks must act in close support with their armored infantry. Normally, the armored infantry and artillery is used either to make a hole or to open a door to permit the tank battalions to move forward. As soon as this occurs, the armored infantry and artillery must immediately follow them. All this is adequately covered in existing regulations.

6. When tanks are advancing, they must use their guns for what is known as reconnaissance by fire; that is, they must shoot at any terrestrial objective behind which an antitank gun might be concealed and take these targets under fire at a range greater than that at which an antitank gun is effective; in other words, at a range greater than 2,000 yards. They should fire at

these targets with high explosive or with white phosphorus, because if the enemy receives such fire, he will consider himself discovered and reply at a range so great as to render him ineffective.

7. When tanks are passing or approaching hedges or walls, they should comb them with machine guns so as to remove the danger from close defense antitank grenades and sticky bombs.

8. When tanks use smoke or white phosphorus against infantry, tanks, or antitank guns, they should continue to fire into the smoke with high explosive or with machine guns if they are within range in order to prevent enemy movement.

9. Armored divisions should remember that many difficult open spaces can be passed with impunity if sufficient smoke is placed on the enemy guns and observation posts by the artillery of the division or through cooperation with the air force.

10. The quickest way to get to heaven is to advance across open ground swept by effective enemy antitank fire.

11. The use of indirect fire by tanks is exceptional and is to be deprecated except under circumstances where tanks cannot be used in their proper role and are simply acting as artillery.

12. Tanks should never enter villages, and under those exceptional circumstances where such an entry is demanded, they should take the place from the rear. In passing villages they should move around them at a range in excess of the effective range of the antitank guns which are apt to be concealed in the villages. Personally, I have seldom seen a tank struck on the front silhouette by an antitank gun because the Germans generally put their antitank guns on reverse slopes or in places where they can get flanking fire. This being known, we should act accordingly and not rush in where angels fear to tread.

13. Tanks should remember that antitank guns are not armored and are therefore susceptible to effective results from high explosive and white phosphorus. If, therefore, they are unable to get their artillery up to remove the antitank guns, they should engage these guns with high explosive at a range in excess of 2,500 yards and from defilade, or if they have good observation, by indirect fire methods, because under these circumstances the high explosive will get the guns, and the guns will not have lethal effect against the tanks.

14. When tanks are taken under surprise fire by antitank guns or by other tanks, they should immediately fire several rounds of white phosphorus short of the target and then maneuver to get a telling shot when the smoke clears, or when the enemy emerges from it.

15. In tank versus tank duels, the first round should be armor piercing. If this fails, the second round must be white phosphorus and short so as to give our tank a chance to maneuver, because by keeping its gun laid on the smoke, it has a better chance of getting in the second telling shot than has the enemy, who when he emerges from the smoke does not know the location of our vehicle.

16. Many tanks are lost through the failure of the crews or the platoon leader to make foot reconnaissance. People get vehicle bound and never dismount. Before exposing a valuable tank and the lives of its crew to the danger of destruction by crossing an unreconnoitered skyline or on emerging from cover, a foot reconnaissance with glasses should be made. Here again we have the

question of haste and speed. It may seem a waste of time to take a look, but it is certain death to get on the front slope within effective range of undiscovered antitank guns or lurking enemy tanks.

17. It is of the utmost importance that tank crews, particularly the commander and the gunner, be trained to get a hit with the first shot against surprise targets such as antitank guns or enemy tanks. This shot must be correct both for range and azimuth. Exercises to produce this can be carried out in the tank park. All that is necessary is to have a number of targets which appear successively at different ranges and in different directions. The instructor must know the range to the target so he can check the range setting on the gun. He checks the azimuth by looking through the sight. It is very important that this be practiced.

18. When light tanks are engaging heavier tanks, they must attack by a section, or preferably a platoon. If they will do this, and so operate as to close the ranges to less than 400 yards, they are invariably victorious and at small loss. This close range can be obtained either by feigned retreat and ambush or by effective use of the ground.

19. In using armored infantry we should remember that it is nothing but a form of Cavalry; that is, it uses its vehicles to deploy and to ploy mounted, thus saving time and avoiding fatigue. It does not use its vehicles, except very rarely, for mounted charges. This function is reserved to the tanks. Further, since armored infantry is always operating with its tank elements, it does not have to hold out an infantry reserve because tanks are available, either to exploit the success of the armored infantry or to cover mistakes. Armored infantry should make a violent attack using all its men and weapons.

20. Reconnaissance in front of an armored division is of vital importance because no arm is more susceptible to terrain than is an armored unit.

21. Obviously, due to the rapidity of motion of armored divisions, information must get back more rapidly and must be obtained at greater distances to the front than is the case with slower moving units. It is more important to get the information back fast than to get it back secretly; therefore, use clear, with a limited code for name only when this is possible.

22. Armor must disabuse its mind of the rumored efficiency of German antitank weapons. This statement sounds peculiar in view of what I have already said, but it is nevertheless true.

23. Whenever German antitank guns have gotten our tanks, it has almost always been our own fault. In spite of years of instruction, tanks will go up obvious tank lanes such as cart tracks, open river bottoms, small roads or paths, or along hedges; all of which any intelligent antitank gunner will have arranged to cover. Furthermore, tanks will insist, as I have already said, in crossing skylines or emerging from cover without looking, in spite of the fact that it is well known that German antitank guns are generally on reverse slopes or in positions to fire at right angles to the axis of advance. Again, due to maneuver experience, tanks seek visual cover afforded by bushes, failing to remember that these do not stop bullets. The only cover behind which a tank has any security is that afforded by earth defilade.

24. The German antitank gunner is a good shot. We are better shots. He is unprotected. We are behind inches of steel. If we will use our heads and our American ingenuity and initiative, we have nothing to fear from German antitank guns.

25. Armored battles against infantry and Anti-Tank are short and violent. They take great strength of mind and both physical and moral courage because of this violence and the speed with which they are terminated. When once launched, tanks must close at their best speed just the same as infantry, and also just the same as infantry, they must fire while closing. The true objective of armor is enemy infantry and artillery, and above all his supply installations and command centers

26. Every effort must be made to attack the flank, or preferably the rear, of the enemy. In executing such an attack, we must use all the means at our command to prevent the enemy from stopping these turning movements. Whenever such a movement meets enemy opposition, it must detach a portion of its force to contain the opposition and immediately begin a second and still wider envelopment because, if we are successful in getting one company of tanks alone, or supported by armored infantry and guns, in the enemy's rear, we have won the operation. Light tanks are particularly valuable for the final envelopment in such a movement because they have great speed and endurance, and adequate firepower against the type of resistance they will find in the enemy's rear.

27. In considering operations in which tank and infantry divisions are used in conjunction, we should remember that so long as the infantry attack, be it a penetration or a flank operation, is followed by armor, an enemy counter attack against the infantry flank is not particularly dangerous, because the armored division is the most ideal weapon for counter attacking such a counter attack. Both Corps and Division Commanders must constantly keep in mind such a use of armored divisions.

28. In the unlikely event that we are, at some point of our operations, in a defensive position, armored divisions should be placed to counter attack enemy assaults. These counter attacks should be rehearsed and the lines of approach carefully reconnoitered so that when the enemy appears, he will be violently and ruthlessly destroyed. The use of armored divisions for passive defense is not desirable.

29. Owing to the length of an armored division when marching on one road, it is highly desirable that the division move forward to battle on as many roads as are available. This gives flexibility without sacrificing depth.

To summarize:

We must take great and calculated risks in the use of armor, but we must not dive off the deep end without first determining whether the swimming pool is full of water.

You must never halt because some other unit is stuck. If you push on, you will release the pressure on the adjacent unit, and it will accompany you.

Troops are never defeated by casualties but by lack of resolution, of guts. Battles are won by a few brave men who refuse to fear and who push on. It should be our ambition to be members of this heroic group.

More casualties occur among those who halt or go to the rear than among those who advance and advance firing.

Finally, all of us must have a desperate desire and determination to close with the enemy and to destroy him.

## II. USE OF THE BAZOOKA

1. The purpose of the Bazooka is not to hunt tanks offensively, but to be used as the last resort in keeping tanks from over running infantry. Since the Bazooka is unarmored, and always discloses it's position when fired, it must get a hit on the first shot. To insure this, the range should be held to around thirty yards. When thus used, the Bazooka will hit and penetrate any tank that I have yet seen and will probably stop it. If used at longer ranges, it will probably miss and it's operators will then become targets for the tank's machine guns.

## III. COMMON TACTICAL FAULTS

1. It is nearly always a mistake to occupy obvious cover. This is particularly true in sparsely wooded country, because the woods are clearly marked on the maps in enemy possession and will almost invariable be subjects of concentration.

2. The machine guns provided for close-in protection of command posts and artillery units are for the purpose of preventing enemy small arms fire from being brought on the installation to be protected. Therefore, these machine guns must be placed so far from the object they are protecting that they will take the enemy under their fire before he is within range of the points defended. All types of soldiers must know how to fight as infantry and must so fight when necessity arises.

3. The foolish practice of advancing by rushes over ground which is completely defiladed from enemy fire will be stopped. It exhausts the men to no purpose.

4. When the fire fight starts, bayonets should be fixed. They encourage our soldiers and discourage the enemy.

5. When a platoon or any other commander moves to the front to reconnoiter during a fire fight, he must not move to the rear to disseminate the information he has acquired, but rather, the unit must come up to him. The sight of officers moving to the rear has a disturbing effect on troops and serves no useful purpose.

6. The utilization of dummy guns to draw enemy fire is very important both in the case of our artillery and in the case of our antitank guns. In placing these dummy guns care must be taken not to put them where fire directed on them by the enemy will interfere with the movement of our troops. See that they are used.

7. There is a great lack of understanding about the use of the 57mm antitank guns against tanks. These guns have a lethal range against tanks of approximately a thousand yards. Therefore, they must be emplaced in positions where they cannot see the enemy or be seen by him at ranges in excess of a thousand yards; Otherwise, they will be destroyed by shell fire before they become effective. The proper place for 57mm antitank guns is on reverse slopes or in positions where they can take the enemy under fire when he crosses the skyline or emerges from cover. When the 57mm is used as accompanying artillery, and it should be so used unless enemy tanks are around, it follows the methods of the cannon company.



8. Tank destroyer units must be emplaced sufficiently forward to prevent enemy tanks from over running the infantry. There is a prevalent and erroneous idea, particularly in the case of self propelled tank destroyer units, that they should be held in reserve far to the rear. In such a position they will be impotent to get to the front in time to stop a tank attack before it has penetrated the infantry lines.

9. We are very prone to underestimate the time necessary for a coordinated attack, and we are also prone to get our infantry under fire before arrangements for coordination have been made. Prior to the infantry attack, the only people exposed to hostile fire are the scouts, and their sole mission is to find out where the enemy is so that the coordinated attack can be intelligently prepared.

10. There is a ridiculous and wide spread fear among all our troops that they will run out of ammunition, particularly small arms ammunition. In my experience this has never happened. Troops should remember that if they save ammunition, which they could have effectively expended against the enemy, for some unforeseen contingency, they will also save the lives of a number of enemy who will participate in the contingency.

11. The necessity for using all weapons to their maximum fire capacity during our attacks cannot be too strongly impressed on the soldiers. Any gun that is not firing is not doing its job. In the assault where marching fire is used by the infantry, every gun, machine gun, and mortar must fire. Actual experiments have shown that using a relatively intense marching fire in an advance of over a thousand yards, that less than 35 rounds per rifle are actually expended. This is lower than would have been the case if we would have attempted to advance by rushes and taken three or four times as long reaching the enemy.

12. At the close of a fight it is very desirable that our own dead be removed from view as rapidly as possible. After this has been accomplished, the enemy dead should be removed with the same reverence we accord our own and given a proper burial.

13. There is a regrettable tendency on the part of company officers and non commissioned officers to accompany the firing line as if they were members of a well trained chorus, simply keeping position. This attitude of mind, and the actions resulting from it, is impossible in battle. Officers and non commissioned officers are there for the purpose of seeing that all the weapons of their respective little commands are functioning. They cannot see this by simply accompanying the movement; they must direct it.

14. In this letter, as in those preceding it, I am not laying down inflexible rules. I am simply giving you my ideas. I must and do trust to your military experience, courage, and loyalty to make these ideas tangible. There are many ways of fighting, all of which are good if they are successful.

15. We are now entering the final stage of a great war, of a great victory! This victory can only be attained by the maximum use of all weapons, both physical and spiritual. It is the duty of all commanders to see that their men are fully aware of the many vile deeds perpetrated upon civilization by the Germans, and that they attack with the utmost determination, ferocity, and hate. I am sure that every man will do his duty, and I am therefore sure that victory is simply a question of when we find the enemy.

*G S Patton Jr.*

G.S. Patton, Jr.  
Lt. Gen., U. S. Army  
Commanding

HEADQUARTERS  
THIRD UNITED STATES ARMY  
APO 403

25 September 1944

SUBJECT: Letter of Instruction No. 4  
TO: Corps Commanders and the Commanding General XIX Tactical Air Command

1. The acute supply situation confronting us has caused the Supreme Commander to direct that until further orders, the Third Army, with its supporting troops, and those elements of the Ninth Army placed in the line, will assume the defensive.
2. It is evident that the successful accomplishment of this mission will require particular concentration upon two points;
  - a. First, this change in attitude on our part must be completely concealed from the enemy, who, should he learn of it, would certainly move troops from our front to oppose other Allied Armies.
  - b. Second, we must be in possession of a suitable line of departure so that we can move rapidly when the Supreme Commander directs us to resume the offensive.
3. In order to carry out the requirements of Paragraph 2a, above, we will not dig in, wire, or mine; but will utilize a thin outpost zone backed at suitable places by powerful mobile reserves. We will further insure that all possible avenues of tank attack are registered in by all our batteries, Division, Corps, and Army, whose guns can bear. Under the supervision of the Army Artillery Officer these zones of concentration will be numbered from north to south and recorded on a uniform map to be distributed to the units concerned, so that fire may instantly be opened in any zone. Further, a copy of this map will be placed in the possession of the Commanding General XIX Tactical Air Command so that he may coordinate the concentration of planes upon any critical area in the most expeditious manner. Counter attacks by our mobile reserves should be planned and executed to secure a double envelopment of the hostile effort with the purpose of not only defeating it, but destroying it.
4. To insure our possessing a suitable line of departure for the future offensive, we shall secure the dotted line shown on the attached overlay by means of limited operations in consonance with our reduced scale of supply. To provide the necessary means for such limited operations, the utmost parsimony will be used in the expenditure of gasoline and ammunition consistent with the economy of the lives of our troops.
5. Whenever circumstances admit, troops not in the immediate presence of the enemy will be billeted. As soon as the troops so billeted have rested and have been equipped, they will be given constant practice in offensive tactics.
6. The defensive instructions contained in this letter will not be circulated below the grade of General Officer.
7. In closing, I desire to again compliment all of you on the magnificent dash and skill which you have shown in the operation to date. We only await the signal to resume our career of conquest.

*G S Patton Jr.*

G.S. Patton, Jr.  
Lt. Gen., U.S. Army  
Commanding

December 12, 1917

From: Captain G.S. Patton, Jr., Cavalry  
To: The Chief of the Tank Service  
Subject: Light Tanks

1. Pursuant to verbal instructions from the Chief of the Tank Service and from the Chief of the Training Section, Headquarters A.E.F., and by authority of paragraph 37, S.O. 153, Hq. A.E.F., November 10, 1917, I visited the Tank Center of the French Army at Champlieu in the forest of Compiègne from November 18, 1917, to December 1, 1917, both dates inclusive, and the Renault construction works December 3, 1917.

2. Second Lieutenant Elgin Braine, Field Artillery, O.R.C., joined me on November 27th, per paragraph 38, S.O. 153, Hq. A.E.F., and remained with me the rest of the trip.

3. General Etienne, in charge of the French Tank Service, gave us every facility at Champlieu, and Lieutenant Darse, the Military representative at the Renault works, did the same thing.

4. The impression gained from the visit to the Renault works was chiefly that the French are experiencing great difficulty in having the manufacturer collaborate with the fighting end of the Tank Service. The manufacturer continues to make tanks containing faults to which his attention has been drawn by the people using them at Champlieu, while on the other hand the people Champlieu fail to remonstrate with sufficient vehemence and continue to accept imperfect materiel.

5. As the attached report and recommendations are by the nature of the subject long and varied it has been separated into four attachments as follows:

- A. Mechanical.
  - 1. Description.
  - 2. Specifications.
  - 3. Mathematical formulae.
  - 4. Change.
- B. Organization.
  - . Personnel and materiel.
  - 2. Maintenance.
- C. Tactical.
  - 1. History.
  - 2. Lessons from combat.
  - 3. Theory of use.
- D. Instruction and drill.

## A. MECHANICAL

### Description

Definition. A tank is an armored, self propelled vehicle which must be able to deliver a predetermined firepower on the field of battle at the time it is required.

To do this it must fulfill three principle conditions:

First; it must be able to overcome all the obstacles incident to the terrain.

Second; it must be able to give a maximum protection to it's operatives and it's motor power.

Third; it must be armed.

These three essential features, however, must be obtained within limits set by the following conditions of transport and manufacture.

First; the weight must be kept within limits which make transportation by rail or by motor truck possible.

Second; the weight must be proportional to it's motive and traction potentialities.

Third; it must be easy to manufacture in quantities.

Since the weight varies inversely with the armor plate the latter must be just sufficient to give maximum protection. Armor which would protect against a direct hit from any projectile larger than a small arms bullet would have to be of such thickness that it's weight would be prohibitive. Hence, only protection from hits by small arms bullets can be sought. Protection against larger calibers must be obtained by mobility and invisibility. Invisibility is chiefly a question of the size of a target, while mobility varies inversely with weight and size.

The fire power necessary to support infantry at close range is obtainable from several varieties of guns whose weight and the weight of whose ammunition is negligible.

With the purpose of solving the problem imposed by the above premises the French have designed the light Renault Tank.

This tank has no wheels of any sort directly bearing on the ground but is completely supported and propelled by two endless chain tracks, one on each side. Each track works on a side frame called a longeron. A track runs on two wheels, one propelling it by means of the motor and the other keeping up the tension and aiding in the return of the track. Traction is obtained by the lower part of the track being forced into the ground by the weight of the machine, which weight is supported by rollers on the back of the lower part of the track. The axles of these rollers are fixed to two rockers called the front and rear chariots placed inside the lower frame of the longeron.

The front chariot has two trains of rollers each train articulated to it by an axle. The forward train carries three rollers, the rear, two rollers. The chariot is attached to the lower frame of the longeron by a large spring of eight leaves which will support a weight of 1,200 kilos. The front end of this spring is fastened to the longeron with an axle (fixed) and the rear end by a shackle (movable). The spring is fastened to the chariot by an axle held to the spring by clips.

The rear chariot is similar to the front with the following exceptions:

1. Its trains each have two rollers.
2. its spring has fourteen leaves and will sustain a weight of 1,700 kilos.
3. The front end of the spring is shackled and the rear end is fixed to the longeron.

The nine rollers of these two chariots support the entire weight of the car as mentioned above, and by their method of attachment allow the tread of the track to conform to almost any inequality of the ground. This is a marked advantage over the British tank in which the rollers are fixed permanently to the plane surface of the bottom of the car and have no springs.

The upper frame of the longeron consists of a train of six rollers whose function is to support the weight of the top part of the chain and to insure its tension. This train of rollers is attached at its rear end to the main longeron by means of an axle and stanchion. At its front end it works vertically in a guide which is bolted to the main frame of the longeron and its tension is secured by the action of a spiral spring placed just ahead of the guide and imprisoned between the lower front end of the train of rollers and the top of the main frame of the longeron.

On the top of the main frame of the longeron and just ahead of the guide and spring above mentioned is the support for the axle of the return pulley or tension wheel. This is a large wooden wheel with steel shoe over which the track runs on its way to the ground (diameter across 86 centimeters).

The tension of the track is permanently altered by the advance or retraction of this wheel by means of the "Y" or fork which holds its axle. This adjustment is made by means of an adjusting nut in the tail of the fork.

The weight of the chassis is supported by the two longerons at two points on each side.

At the rear end the articulation is fixed by means of a dead axle which serves as the pivot for both the rear end of the longerons and the spur/gear driven sprockets. It is by means of these sprockets that the motor gives movement to the track.

At the front end the weight of the chassis is transmitted to the longerons through a large spiral spring working inside guides, which allows play in a vertical plane. Fracture of the spring is prevented by means of a rubber bumper which comes into play in the case of excessive shock.

## Track

The movement of the tank is caused by two endless tracks each about twelve inches wide with a single cross spur on each one of the 32 links composing a chain (dimensions of link 24x34 centimeters). Each link is connected with the others by means of an axle fastened on both ends with a big cotter pin. The whole chain acts as a guide to the rollers and support wheel. At the rear of the longeron the chain rolls on the teeth of the sprocket which as above mentioned is mounted on the dead axle at the pivot of the longeron.

Chassis is composed of a floor of armor plate 8 millimeters thick; sides of armor plate 16 millimeters thick. The nose is made of armor plate 16 millimeters thick. The two doors on the top of the nose open to the right and left. Above the nose rises the base of the turret surmounted by the turret. Behind the turret is the tail section containing the motor, etc. All of these parts are composed

of 16 millimeter armor plate. At the front end of the base of the turret are slits through which the driver can see; also a small shutter which, opening in conjunction with the doors of the nose, permits the driver to enter and leave the machine. The turret can turn through 360 degrees and is easily moved by two handles on the inside, the rotation being facilitated by a chain of ball bearings. In the back of the turret is a door opening outwards which allows the gunner to enter and leave the turret. Behind the tail carrying the motor is an additional flat piece of metal also called the tail. The purpose of this addition is to give added length to the tank and thus facilitate the crossing of large trenches. It is hinged at its lower end and supported by movable brackets at its upper end, and it may thus be lowered so that the motor may be cranked from the outside. The motor is the standard monoblock 'L' head motor of the Renault small truck, which is listed at 18 horsepower.

There are two gasoline tanks, a large and a small one. The smaller one holds about 5 liters and is placed just over the top of the carburetor so as to insure gravity feed. The big tank, with a capacity of 108 liters is made of double sheet steel, the space between the two thicknesses of steel being filled with best quality wool felt, so that if the tank is pierced by a bullet the expansion of the felt on being moistened by the gasoline will prevent excessive leakage. At the bottom of the outside case is a drain pipe leading to the outside of the tank so that when the felt becomes thoroughly saturated, the excess gas will flow outside. The flow of gas from the large to the small tank is caused by the action of a pulsator which in turn is actuated by an automatic air pump worked by a worm gear from the cam shaft. The action of this pulsator causes the gas to be pumped (not forced by air pressure) from the large tank to the small, so that the latter is kept constantly full and the excess flows back to the large tank by means of a bypass.

Magneto is of the Bosch high tension type ZR4. Carburetor is of the Zenith two spray type. Radiator of the ordinary Renault tubular construction with thermo-siphon circulation. Cooling is assured by a large fan placed just forward of the radiator which draws the air for the cooling of the radiator through the foot of the gun tower, the air entering the gun tower through a ventilator at the top. By this means the cooling fan also serves to ventilate the tank. Main clutch is of the inverted cone type contained in the fly wheel. Universal joints are of a special construction, allowing a certain amount of shock and strain to be taken up. It is a double-hexagon-ended dumbbell type with a male and female end connecting the motor to the gear box. The gear box has two trains of gears giving four speeds ahead and a reverse, but at no speed does the motor drive direct as in an automobile, but always through a gear. The power is transmitted from the gear box to the tracks by means of two pinions which receive their power from a beveled gear as is usual in a differential, but it should be noted that in the tank there are no spider gears and both tracks always rotate at the same speed. The two track clutches, one on each side, are fastened to the two ends of this pinion by a slotted key way. Beyond the clutch the power is transmitted to a train of gears and spur gears through an Oldham joint. This train of gears and spur gears is called a de-multiplier and is for the purpose of enhancing the power of the motor by reducing the number of turns of the driving sprocket in proportion to the number of turns in the motor. If we letter the gears of this train beginning with that which connects the clutch with the train and call it 'A', we have 'A' with 18 teeth driving 'B' with 58 teeth; 'C' with 15 teeth connected directly with 'B' drives 'D' with 30 teeth; 'E' with 13 teeth connected directly to 'D' drives 'F' with 38 teeth, which in turn drives 'G', the sprocket, with 15 teeth.

By means of the two side clutches which connect the motor to these two trains of gears the direction of the tank is altered. When, for example, it is desired to turn to the right the right clutch is first released by pulling the starting lever. If a short change of direction is desired, the starting lever is pulled more, applying the clutch brake on the right side, and the car spins around in place.



At the back of the gun tower is situated the inside cranking device. This is a simple system of a chain sprocket and gears turned in the ordinary way with a starting handle. The train of gears is necessary because of the fact that cranking from this end the movement must be transmitted through the clutch and gear box.

Specifications:

Total length 4 centimeters, 100 MM  
 Total width 1 meter, 730 millimeters  
 Distance between axes of chain 1 meter, 400 millimeters  
 Distance between spur gear and pulley 2 meters, 820 millimeters  
 Distance between extreme rollers 1 meter, 975 millimeters  
 Total weight with gas and oil but without guns and ammunition; 5 tons, 875 kilos.  
 Rear chariot with spring and four rollers, 160 kilos.  
 Longeron, 780 kilos.  
 Motor, 309 kilos.  
 One chain, 390 kilos.  
 Side plates of chrome nickel steel.  
 Front, back, and tower chrome steel.  
 Bottom rollers made of cast steel with bronze bearings, having oil hole through inside tube to bearing.  
 Top rollers made of cast iron with bronze bearings; oil hole in top of roller.  
 Tension wheel made of laminated wood with steel shoe, diameter 86 centimeters, thickness, 5 centimeters.

Motor:

Four cylinders 95x160, one block; all valves on one side, oil reservoirs in crank case; one large dip in the center, two small ones at each end with oil pump in each one of the three, insuring lubrication at any position of the machine.  
 Zenith carburetor, two spray nozzle, 115/100 millimeters. 125/100 millimeters.  
 Regulator from governor on cam shaft moving a rod connected to small piston which acts on the butterfly valve in the manifold.  
 Pressure of the machine on ground 0.445 kilos per square centimeter, or about one half of the weight of a man per square centimeter.

Power of motor:

R.P.M.H.P.	Kilograms–meters	(Power to lift one )	
		(foot pounds)	
		(kilogram one meter)	
		(high in one second)	
500	13.0	19.600	
700	19.7	20.200	
900	27.0	21.500	Fan takes three horse
1200	34.0	20.600	power from the motor.
1500	41.5	19.700	
1700	44.2	18.600	

2000            51.0            18.300

Number of revolutions of the sprocket to every 1000 revolutions Gear/Sliding of the motor:

1st speed	50/16	12.15
2nd speed	40/26	26.60
3rd speed	32/34	43.50
4th speed	25/41	67.00

Weight in kilograms that tank can pull by hook up a slope:

	Speed per hour	Zero degrees
1st speed	1 kilometer, 500 meters	4.0
2nd speed	3 kilometers, 80 meters	2.8
3rd speed	5 kilometers, 400 meters	1.200
4th speed	7 kilometers, 800 meters	800

Average consumption per hour's running time; 9 liters of gas tank and one liter of oil.

#### The Mechanical Aspect of the Tank

The tank is essentially composed of a chassis or platform carried on a pair of endless belts. The belts are moved by means of a cogwheel or sprocket from the motor. There is a second large wheel or pulley to help return the belt. The rollers which support the weight of the chassis are hinged so as to adjust themselves automatically to the inequalities of the terrain. The tension is regulated by a second system of rollers and springs on the upper half of the chain.

Hence, a tank is essentially an armored tower rolling upon tracks of it's own laying.

#### Effect of Traction:

In the movement of a tank, as in the movement of any other self propelled vehicle, it is necessary to overcome a certain number of variable resistances. The sum of these resistances give the effort required for movement. Resistances are of two kinds; permanent and accidental. Permanent resistance consists of:

- (a) Natural resistance due to the friction of the bearings on the wheels.
- (b) Resistance of the rollers on the chains.
- (c) Resistance of the air.

Temporary or accidental resistances consist of:

- (a) Resistance due to weight.
- (b) Resistance due to obstacles; such as starting, turning, climbing, etc.

We shall examine the different resistances in detail. Let  $P'$  be the total weight of the tank, chains not included,  $P$  the weight of the axles. Then  $P' - P$  is the pressure that produces friction. If  $f$  is the coefficient of friction and  $D, d$ , respectively, the diameters of the roller and axle, the work due to friction is a unit of length. In the Renault  $f$  equals  $1/70$  and  $d/D$  equals  $0.20$ . The resistance of the vehicle is therefore  $2.85$  kilograms or above  $6.87$  pounds per suspended ton.

Resistance due to rolling on the chains. Let  $f'$  be the coefficient of friction between the rollers and the chains. Then the resistance due to rolling on the chains is  $f'$  times  $P'/D$ ,  $f'$  varying from  $.015$  to  $.02$ .  $D$  is very small and varies from  $.18$  meters to  $.20$  meters. Hence, the resistance varies from  $80$  to  $100$  kilograms per ton.

Resistance due to air. Let  $S$  be the surface of the tank on the vertical plane in square meters,  $V$  the speed of the machine in meters per second, and the constant coefficient of pressure of the atmosphere. The resistance is therefore  $\frac{1}{2} \rho V^2 S C_d$ . This resistance is, however, negligible owing to the slowness of the tank. hence, the effort necessary to overcome the permanent resistance is which equals  $90$  to  $100$  kilograms per ton.

Accidental resistance. Resistance due to slopes. When a machine is to be moved over terrain which has a slope of the angle above the horizontal the resistance due to the slope is.

Degrees of slope Effort in kilograms per ton.

10	100
20	200
30	290
40	370
50	450
60	515
70	573
80	625
90	670
100	707

A Renault will not climb a slope greater than  $45$  degrees unless the traction of the soil is especially good.

The effort at the circumference of the driving sprocket to overcome the permanent load and the resistance due to declivity is therefore  $\frac{W}{\cos \theta}$ . Since the maximum slopes to be overcome are defined in the textbooks on loads  $F$  is known.

Efficiency of motors driving caterpillars. In the chain propelled tank the transmission by caterpillar gives a mechanical efficiency of  $70$  percent. The different speeds necessitated by the requirements of climbing gives throughout by means of a reducing train of gears a constant efficiency of  $70$  percent. The effort of the motor would thus be about  $2F$  or  $\frac{W}{\cos \theta}$ .

The effort of traction of the caterpillar. The power of the motor being thus determined by the conditions of the tables of load we can deduce for each speed the power necessary to accomplish the work of the caterpillar.

Adhesion or useful pressure. Adhesion is the resistance to slipping of the tank on the ground which supports it. If  $P$  is the weight of the tank and  $N$  the coefficient of friction between the soil and the caterpillar the adhesion is  $A$  equals  $NP$ . That is, the effort which will make the car slide in place on the ground is  $A > F$  and  $NP > .$   $N$  is a variable and changes directly with the effect of the weight of the car on the ground which supports it.

Tanks on variable supporting surfaces. In the tanks we have thus far considered the weight bearing surface of the caterpillars remains constant. The unit of pressure must therefore also remain constant and the movement of the tank depends upon the compressibility of the soil.

Due to accidents of the terrain apt to be encountered in action, the weight bearing surface of the tank may become reduced, so that in tanks of the above nature the maximum traction potentialities only exist on ground of the best, that is, the most level surfaces.

In a rational machine on the contrary one should be able to vary the surface of pressure according to the nature of the ground, that is, the less advantageous the traction potentialities of the surface the more bearing surface should be applied. The solution I propose depends upon this power of increasing the bearing surface and also upon the ability of the original bearing surface to conform to variable terrain. Increased bearing surfaces will be obtained by adding two rollers at the other end of the tank, these rollers to be habitually concealed within the armor and only used in the descent into and ascent from ditches, the bearing surface to be made to conform absolutely to the surface of the ground by means of a tank with three articulated sectors. By constructing such a tank with segments of a calculated length it will be possible to have no segment make an angle greater than 17 degrees with any other segment no matter what the shape of the obstacle to be overcome.

## Changes

Throughout experiments carried on by the French at the center of instruction at Champlieu the following changes in the original model of the Renault tank have been recommended:

1. Self starter. The inside system of cranking is very efficient so long as the tank is in a level position, but when a tank is stalled at a steep angle it is almost impossible to crank it from the inside, for in the position above mentioned the starting handle will be either upon the floor or the ceiling. It stands to reason that a tank will much more frequently become stalled while crossing a difficult obstacle, that is, while standing on its head or its tail, than it will be on the level. It is, therefore, thought that a self starter with batteries could be put in with great advantage. It will probably be necessary to suspend the battery box by a system of springs somewhere within the machine so as to reduce the vibration and consequent deterioration of the batteries.
2. Hand accelerator. Such an accelerator is necessary, as it will often be essential to change gears on steep slopes in which case both feet will be occupied. The accelerator should be situated so that it may be reached by the left hand.
3. Raise the eye slots. For men the size of ours the eye slots both for the driver and gunner are too low and should be raised about one and one half inches. In the case of the gunner the man sits on the floor and consequently the seat cannot be lowered for a tall man while for a short man it could be raised. The case of the cannoneer who stands on the floor is identical.

4. Back of the driver's seat should be an adjustable strap like a saddle girth. This form of back is very much more comfortable and by lengthening or shortening it, men of different heights could be more easily accommodate.
5. Speaking tube. A speaking tube should be provided by which the gunner can talk to the driver. This tube should have a head attachment holding the receiver over the driver's ear at all times. A second tube with whistle call should reach from the rear end of the tank to the gunner's tower, so that infantrymen on the outside may communicate with him from a position of comparative safety. This tube can be run through the ventilator opening in the top of the tail and will not necessitate the making of any additional holes in the tank.
6. The present method of greasing the bearings of the main clutch shift fork is inadequate. A grease cup with a tube leading to this bearing should be placed at some convenient locality within the tail.
7. The fan belt must be made much stronger. The present one breaks continually. Recommend fan belt of Rolls Royce type.
8. Electric trouble light with cord long enough to enable it to be fastened to the front end of the tank as a headlight and to the rear end as a tail light should be provided. In addition it should have a red light or red opening to be used when attached to the tail.
9. The floor of the gunner's tower should be made much rougher or should be covered with a corrugated mat to give him a better footing.
10. It is thought a pump driven water circulating system will give better results than a thermo-siphon.
11. There should be an external lock with key for the door of the engine compartment which can be so fastened when going into battle.
12. Leather helmets like those worn by football players or aviators, but without ear pieces, must be provided for the crew to prevent their being knocked unconscious when going over rough ground.
13. The links of the track should be of armor plate. Very important.
14. The present method of gas supply is unsatisfactory, because in certain positions of the tank, particularly with the tail low, a vacuum is created in the small tank preventing a flow of gas to the carburetor. Some method of insuring a constant flow of gas no matter what the position of the tank must be devised. Very important.
15. The partition between the gunner's tower and engine should have the lower two thirds held in place by wing nuts instead of bolts so that the gear box may be reached more easily.
16. The towing hooks front and rear should be of simpler design and at least 50 per cent stronger.
17. Wire rope should be at least 50 per cent stronger.

18. Each tank should have one chain of same strength as rope two and one half meters long with a ring at each end. This chain is used for coupling tanks when crossing trenches by pairs. Very important.
19. Steps at front end of tank and foot rest for left foot are absolutely unnecessary and useless.
20. Clutch, brake, and accelerator pedals should all be moved about four inches to the left. In their present position it is almost impossible to reach accelerator pedals due to curvature of right steering lever.
21. The plate covering the outside of the lower frame of the longerons should be attached with wing nuts or should have doors out in it to facilitate greasing the chariots and removing frozen mud.
22. There should be a small hole in the floor of the engine compartment to allow water from the radiator and excess oil from the engine to run out of the tank.
23. The hinges holding the steel shutter in front of the driver should not be a part of the plate as in the present design but should be of softer metal riveted to it. The present hinges homogenous with the plate are too brittle and are often broken due to the vibration caused by a bullet impact.
24. Original rear chariot spring had only thirteen leaves. One should be added, making fourteen, as a thirteen leaf spring is weak.
25. The four center rollers in upper frame of longeron should be raised by shims or washers so as to bear on the chain at all times.
26. It has been reported that some of the British guns and machine guns at the fight at Cambrai were put out of action by armor piercing bullets cutting their barrels. If such is the case, these guns must be protected with armor plate at least as far as the gas chamber on the machine guns and the recoil cylinder on the small guns.

## B. ORGANIZATION

### Personnel and Materiel

The memorandum on the "Combat Tank Service" was approved by the Commander in Chief on September 23, 1917. The following is a proposed organization following almost exactly the lines therein laid down but with some slight modifications.

The highest tactical and administrative unit should be a battalion of three companies with a repair unit and perhaps an attached transport truck company.

The platoon consists of the following personnel:

- 1 lieutenant, chief of platoon.
- 2 sergeants, six pounder guns.
- 2 corporals, machine guns.
- 5 privates first class, drivers.

5 privates, helpers.  
1 mechanic

Total of 1 officer, 15 enlisted men.

Materiel:

1 tank, three inch gun.  
2 tanks, six pounder guns.  
2 tanks, machine guns.

Total of 5 tanks.

Company consists of three platoons and company headquarters.

Personnel company headquarters:

1 captain.  
1 lieutenant, reconnaissance and ordnance officer.  
1 first sergeant.  
1 supply sergeant.  
1 mess sergeant.  
1 signal sergeant.  
1 corporal, clerk.  
10 privates first class, drivers.  
20 privates, helpers.  
1 mechanic.  
2 motorcyclists.  
10 chauffeurs, 9 for trucks and 1 for automobile.  
3 cooks.

Total of 2 officers, 51 enlisted men.

Materiel for company headquarters:

1 tank, signal.  
1 tank, commanding officer's.  
8 tanks, supply, training and reserve.  
5 trucks, ammunition.  
2 trucks, gas and oil.  
1 truck, with trailer, baggage.  
1 truck, kitchen, with rolling kitchen trailer.  
1 automobile (Ford). 2 motorcycles.

Total personnel for company:

5 officers, 96 enlisted men;  
materiel 25 tanks, 12 vehicles.

Battalion consists of three complete company units plus battalion headquarters and repair unit.

Personnel battalion headquarters:

- 1 major, commanding.
- 1 lieutenant, adjutant.
- 1 lieutenant, quartermaster.
- 1 sergeant major.
- 1 sergeant, quartermaster.
- 1 sergeant, signal.
- 2 corporals, tank drivers.
- 20 privates, helpers.
- 10 mechanics (6 regular mechanics, 2 blacksmiths, 2 welders).
- 2 motorcyclists.
- 4 chauffeurs (3 for truck, 1 for automobile).
- 2 cooks.

Total of 3 officers, 43 enlisted men.

Materiel:

- 1 tank, major's.
- 1 tank, signal.
- 1 five ton machine truck with trailer.
- 2 five ton trucks. (with trailers to carry spare parts)
- 1 automobile.
- 2 motorcycles.

Total of 2 tanks, 6 vehicles.

Total for battalion:

18 officers, 331 enlisted men;  
77 tanks, 42 vehicles.

It is thought that a solution of the general problem of arranging a battalion will be to place all of the supply trucks with the battalion headquarters, that is, the 5 ammunition trucks and 2 gas and oil trucks from each company, making a total of 21 trucks with battalion headquarters, and leaving with each company the baggage truck and the kitchen truck. With this organization it will be possible to detach a company for some special tactical reason and to send with it the 9 trucks carrying all its ammunition, gas, and other supplies. When much work is to be done at the battalion repair shops the 12 mechanics of the three companies could all assist with the work there. At other times they should be retained with the company to tune up and work on the tanks pertaining to each company. In addition to the battalion repair unit to be described later there must be a large repair shop at some permanent or semi-permanent center, where badly damaged tanks or automobiles could be sent for repair and where motors in need of thorough overhauling could be shipped. Such motors should be replaced by an adjusted motor shipped at once from the center to the unit sending the old motor for repair.



It is believed that this system with only two repair units (that of the battalion and that of the center) is better than the French system. The French have a company repair unit, a battalion repair unit and a unit at the center. The French battalion repair unit can do heavier work than will be possible for the proposed battalion repair unit in this report, but it is thought that work too heavy to be carried on by the proposed battalion unit had better be done at the center.

The attached table shows the proposed organization for a battalion, both personnel and materiel.

The problem of giving adequate mobility to the battalion as organized above can be dealt with in three ways. The first is by having an attached carrier company of 77 trucks, each capable of pulling a tank by trailer or of carrying it loaded. This method would give absolute mobility, for with such an amount of transport it would be possible to move every unit of the battalion at one time in one trip. When for any reason a battalion should remain stationary this transport company could be used for other duties or could be attached to some battalion in progress of movement. The objection to detaching such trucks for other duties would be that the organization would be broken up and the trucks might not be on hand at the time they were wanted.

The second method of handling the problem would be to have the attached carrier company consist of 27 large specially built trucks, each capable of carrying one tank and pulling a second by trailer. This method would reduce the number of trucks necessary and the consequent cost, but a truck capable of carrying one tank and pulling another would have to be of special manufacture. Also the mobility would be very much reduced, as trucks with such a load could only work on the best roads. By this second method all the 53 fighting tanks and one reserve tank of a battalion could be moved in two trips, while by utilizing the two spare parts trucks and the battalion supply train sufficient gas, oil, and ammunition for one day's fighting could be moved in two trips.

The third method is to have the 27 transport trucks attached to each battalion (as per table herewith) consist of short couple trucks like the Knox, or Hewiet. This type of truck carries no load and is simply four wheels with a motor. The load is carried on a trailer and traction to the driving wheels of the truck is given by the weight of the trailer. By having each of these trucks supplied with a trailer capable of carrying either a tank or an ordinary load of gas, ammunition, or baggage it would be possible to transport all of the fighting tanks and one reserve tank and all of the ammunition in two round trips, as in the second case, leaving only the reserve tanks to be carried on a third trip.

Of these methods the first is best from a purely tactical standpoint, as it insures absolute mobility to the entire battalion. The third method is best when we consider the cost and the tonnage problem which confronts our Army, and it is believed that it gives sufficient mobility for almost any action on the probable length of front to be occupied by American troops. The attached memorandum on the comparative value of trucks should be considered in connection with the foregoing.

#### Maintenance

The following is a list of the materiel to be carried by each tank. Also, a list of the materiel to be carried by the three trucks of the battalion repair unit (machine truck with trailer and two spare parts trucks with trailers).

#### List of Tools and Extras Carried by Each Tank

1 chart book.  
1 Klaxon horn.  
1 ten liter can for extra oil.  
1 steel rope with hook on one and eye on the other,  
7/16 in. diameter, ten meters long.  
1 chain, two and one half meters long.  
1 five ton jack.  
2 shovels.  
1 pick.  
2 pyrene extinguishers.  
1 leather tool bag.  
1 hammer.  
1 bronze heading bar.  
1 large screw driver.  
1 small screw driver.  
1 small vise.  
2 adjustable end wrenches.  
4 double end flat wrenches.  
4 double end socket wrenches.  
1 large special wrench (for adjusting pulley wheel).  
1 carburetor spray nozzle key.  
1 cotter pin puller.  
1 cold chisel (large).  
1 cold chisel (small).  
1 oil gun.  
1 grease gun.  
3 funnels (2 large, 1 small).  
1 canvas pail.  
1 pair universal pliers.  
2 meters of asbestos string packing.  
1 roll tire tape.  
2 leather straps.  
1 roll soft iron wire.  
1 chamois.  
1 measure stick for gas tank.  
1 pair bolt cutters.  
1 can cup grease.  
1 small motor cleaning brush.  
50 centimeters rubber tubing.  
5 liters of gasoline.  
1 valve spring lifter.  
4 spark plugs.  
1 intake.  
1 exhaust valve.  
1 valve spring.  
2 meters of insulated wire.  
2 rubber tubes with special fastenings.  
2 pet cocks.  
4 links for fan belt.

extra magneto parts.  
 split washers.  
 6 nuts and bolts, 6mm.  
 6 nuts and bolts, 10mm.  
 6 nuts and bolts, 12mm.  
 6 nuts and bolts, 14mm.  
 10 cotter pins, 2mm.  
 10 cotter pins, 3mm.  
 10 cotter pins, 6mm.  
 10 cotter pins, 11/2mm.  
 1 sponge.  
 1 cleaning brush.  
 1 triangle file.  
 1 round file.  
 3 oil cans (gas, oil, kerosene).  
 1 big oiling can.  
 solderless pipe connections.  
 extra tubing.  
 1 trouble lamp.

#### List of Tools and Extras Carried by Battalion Repair Unit

1 large machine shop truck with trailer carrying dynamo and motor with sufficient power to operate at least two lathes and drill presses, electric drills, etc., including shop lighting.  
 1 160mm lathe (with complete set of tools (mounted))  
 1 drill press (very sensitive up to 16mm (inside ))  
 1 emery wheel (truck )  
 3 vises.  
 1 set metal drills (2mm to 22mm. with 1/2mm difference between each size).  
 4 braces with large assortment of bits.  
 1 special ratchet brace.  
 1 complete set of monkey wrenches (up to 500mm length).  
 2 electric drills (1 slow speed for small holes and one three speed for large holes).  
 1 complete set of metal bits (2 to 22mm).  
 1 complete set of metal augurs (2 to 22mm).  
 1 complete set taps and dies (2 to 24mm).  
 1 blow torch for copper with soldering irons.  
 1 blow torch for tin with soldering irons.  
 2 pipe wrenches.  
 1 complete set of socket wrenches.  
 1 complete set of end wrenches.  
 15 different kinds of pliers (cutting, flat, round, universal, etc.).  
 3 bolt cutters.  
 2 bubble levels.  
 2 plates for flattening out shims, etc.  
 1 marker.  
 12 steel prick punches.  
 10 cotter pin pullers. set of gauges.  
 1 set of calipers inside (10 each).

1 set of calipers outside (10 each).  
1 set of hammers (heavy to smallest).  
1 bronze hammer.  
1 copper hammer.  
1 wood hammer.  
1 leather hammer.  
5 hack saws.  
12 dozen blades.  
2 adjustable ratchet drills.  
1 set of files (all kinds and sizes).  
5 pieces of round bronze stock 4 breast drills and set of wood bits complete  
assortment of nuts, bolts, cotter pins, etc.  
1 five ton truck with trailer (equipment to set up shop at destination).  
1 225 mm lathe. bench and set of tolls for lathe. drill press (automatic).  
1 three ton demountable crane with chain tackle.  
Blacksmith outfit.  
    hand forge.  
    anvil stand.  
    slack tube.  
    sledges.  
    sledge hammers.  
    punches.  
    tongs.  
    charcoal.  
    etc.  
1 workbench.  
1 acetylene welding outfit.  
1 cutter torch.  
3 tanks acetylene gas.  
3 three ton jacks.  
5 five ton jacks.  
10 steel ropes.  
6 crowbars, large.  
3 crowbars, small.  
2 pulleys and chains, with block and tackle.  
10 shovels.  
10 picks.  
5 sledge hammers.  
25 pyrene extinguishers.  
6 tarpaulins (large).  
10 motor cleaning brushes.  
10 large cleaning brushes.  
5 oiling cans.  
12 canvas pails.  
100 empty sandbags.  
chains.  
stock of rubber tubing and connections.  
stock of copper pipe.  
stock of tool steel.

screw stock.  
shafting.

1 five ton truck and trailer (to carry spare parts and stocks).

longeron (1 complete, 1 dismantled).  
chariot (1 complete, 1 dismantled).  
chains, rollers, springs, etc.  
motor, gear box, clutches, D.M.  
magneto, carburetor, pulsator.  
extra gas tanks, small and large.

## Guns

2 six pounders.  
2 three inch.  
3 machine guns.

## C. TACTICAL

### History

The evolution of the tank as a weapon of war may be said to have started with the cessation of open warfare on the Western Front.

When, after the Battle of the Marne, the Germans first entrenched themselves they had but one line of trenches. Soon, however, their positions grew to three and four lines of trenches and the first position was strengthened by a similar one in the rear of it. Coincident with the multiplication of trenches the strength and width of the wire entanglements increased and the number of machine guns was multiplied many times. While thus the passive and active power of defense increased the manpower of the assailants diminished and it became necessary to augment with machinery the loss of flesh.

This was first attempted by masses of artillery, but the most intense bombardment always left some wire uncut and some machine guns unsilenced. These facts still made the price of attack too high and the assailants a second time sought to augment their power by mechanical aid.

Strange to say, the French and British, acting independently, struck on very similar solutions at almost the same time, that is, the spring of 1915.

The French at the instigation of General Etienne thought to reduce loss by carrying their men within the hostile lines in bullet proof machines.

Such machines would have to cross shell holes and broken ground to reach their destination. Consequently, the French engineers looked for a machine of the requisite ability and found the Holt tractor, whose mechanism they adopted almost exactly, and covered its chassis with an armored box.

The plan was to construct a very large number of such machines and by using them in a surprise attack along the entire line to have these modern 'Trojan Horses' disgorge their contents of infantry within the German trenches.

Unfortunately for the success of their plan the English made their first tank attack when the French building program was not yet completed. This premature action, as the French see it, on the part of the English removed the essential element of surprise from the French plan.

The English had sought for the solution of a new mechanical aid to the attack in the construction of a fighting machine capable of cutting wire and destroying by its fire the remnants of resistance left after the bombardment. The first use of the English tanks showed their possibilities and the French were forced to alter their carrying machines into attack machines. This adaptation, however, was not wholly satisfactory as the French tank had not sufficient power or climbing ability. Still, they had built so many that they could not make a new model without first giving the old revamped ones a trial.

But, the comparative inefficiency of their first tanks was shortly proved by battle and they decided to construct a new machine purely for fighting purposes. To this end they started the manufacture of the Renault light tank but so far have less than fifty. They expect, however, to have a large number in the spring of 1918.

The two original French tanks are the Schneider with a weight of 16 tons, motor 40 horsepower, armament one short three inch gun and two machine guns, crew one officer and five men; and the Saint Chamond, weight 22 tons, motor with electric drive 60 horsepower, armament one long three inch gun and four machine guns, crew one officer and seven men.

Neither of these tanks can progress without the aid of infantry accompaniment whose duty it is to prepare for them crossings over trenches, and both of them are under-powered for work among shell holes. The British tank Mark IV has a weight of 27 tons, armament two six pounders and four machine guns, crew one officer and eight men. It is very slow and difficult to drive but so far it has done some excellent work.

### Lessons from Fights

The largest tank attack so far made by the French was that of Jovincourt on April 16, 1917. Here eighty tanks were used on a front of eight thousand yards.

The tanks were put directly under the command of the infantry attacking line. This officer knew nothing of tanks nor their power and hence directed that they all deploy in one line without supports. He gave as an objective the fourth German trench eight hundred meters from the starting point. The artillery and aviation commanders were equally unused to tanks, so the former did not support them by fire and the latter never reported their positions.

The tanks making this attack were of the converted type Saint Chamonds and Schneiders, and as previously stated neither kind could progress without the aid of infantry accompaniment. In this fight the infantry of accompaniment were only detailed the evening of the night before the attack and knew nothing of their duties. They behaved very gallantly, but to little avail.

Sectors for groups of tanks were not clearly defined and many groups got lost. Drivers were not sufficiently trained and many tanks were stalled unnecessarily. Despite all the above errors one group of eight tanks under Captain Gubernoud (present Chief of Light Tanks) gained its objective in the fourth German trench where, however, six of the tanks were put out of action by one gun. Their failure was due to two things. The attacking infantry were too far behind and they had no smoke bombs, by firing which they could have blinded their enemies and secured cover long enough to maneuver and attack the gun. The signal success of this one group in gaining its objective is due to the fact that it was the only one which had an exact sector assigned and it was the only one in which the drivers had made a careful study of the map. Both of these facts are very significant. The total French loss in this fight amounted to thirty percent.

On May 5, 1917, at Laffoux, the French made a tank attack on a small scale with only twenty tanks. Here they had carefully studied and corrected the errors of April 16th, particularly with respect to the assignment of sectors and the training of the infantry of accompaniment. The attack was a complete success and there was no loss of tanks.

The French attacked again at Laffoux on August 21st, 22nd, and 23rd with one hundred tanks. The same attention to detail as in May was given and the attack was a complete success. The tanks all reached their objectives. It must be admitted, however, that the artillery preparation was so heavy that there was little for them to do.

In all of the above fights the fire of the tanks was not accurate, showing that more attention should be given to instruction along this line.

At Cambrai during the period from November 27 until December 1, 1917, the British attacked with 432 tanks in two echelons, 332 in the first echelon and a reserve of 100 tanks. Owing to bad railway management it took the British seventy two hours to assemble their tanks. Still, the attack was a surprise. Due to this fact there was no counter barrage during several days as in other attacks. This resulted in much saving of life. In the sixteen days of artillery preparation and counter barrage preceding the battle of Ypres the infantry had ten thousand casualties before the zero hour. At Cambrai there were none. After the zero hour on the first day at Cambrai the loss out of seventy five thousand men engaged was only some three thousand, much lower than usual. The percentage of killed to hit was also much lower than usual, owing to the fact that practically all the wounds were from rifle bullets instead of shell fragments. The loss of tanks on the first day they were used in the offensive was only ten percent. Up to December 1st their loss was twenty five percent, men and tanks, but this was due to the fact that strong counter attacks made it necessary to use them on the defensive, where being limited in movement the hostile artillery got their range with disastrous results.

Wherever the tanks went the infantry met with success, except where the tanks got ahead of the infantry. In these cases losses to the latter resulted as the tanks overlooked concealed guns. The wire was cut by the tanks and the infantry crossed firm ground. Had the wire been cut by artillery barrage the ground would have been so torn up as to be almost as much of an obstacle as the original wire. Also, the fact that the ground was not torn up made it possible to bring forward field guns and cavalry through the holes in the wire without difficulty. Another point is that French villages in the hostile area were not destroyed by the preparatory bombardment. To have cut the wire by artillery bombardment as well as it was cut by the tanks would have required in the neighborhood of two million rounds at a cost of twenty five million dollars. This cost was greater than the cost of the total four hundred tanks engaged. Had the heavy British tanks been followed

by an equal number of light tanks to mop up after them and to push past them and exploit their success, better results would undoubtedly have been obtained.

Theory of Use (Also see organization for details)

A tank company consists of three platoons each under a lieutenant with a captain riding in an extra tank and also a wireless tank, or perhaps it will be found advisable to have the captain ride in the wireless tank.

The platoon is the fighting unit and is armed as follows: Platoon commander's tank, short three inch gun. This is the guiding tank and with it's heavy gun gives added weight of metal when needed. The two flanks each have one tank with a six pounder gun and one tank with a machine gun. These two pairs of tanks must always work in couples, the six pounder gun destroying emplacement while the machine gun shoots the occupants and pursues them with it's fire. The machine gun also keeps the six pounder gun from being rushed.

The proper conception of the light tank is as a heavily armored infantry soldier with equal activity and greater destructive and resistant powers. The light tank is in no sense artillery nor an independent arm but simply a form of specialist who aids the infantry to victory; the expulsion of the enemy from his position. If resistance is broken and the line pierced the tank must and will assume the role of pursuit cavalry and 'ride the enemy to death'. The ever present chance of this last role is the chief reason for the deployment in depth and the maintenance of a reserve.

In order to aid the infantry as above stated the tanks must fulfill the following duties:

1. They must facilitate the advance of the infantry by cutting the wire. To do this they must precede the infantry at the zero hour.
2. They must prevent hostile infantry from manning the parapet when the barrage lifts.
3. They must prevent machine guns and trench cannon from attacking the infantry. To accomplish (2) and (3), therefore, they must reach the hostile position with their barrage and in so doing must sustain losses.
4. They must help in the mopping up and must neutralize the resistance of strong points and blockhouses by masking them with fire and smoke bombs. To do this they must remain in the first position until the infantry has gained secure possession. The history of tank action shows that wherever the tanks have gone ahead, before the infantry were in full possession, it has invariably resulted in loss to the latter.
5. They must guard against counter attack. To do this they must patrol the zone between the most advanced positions of their infantry and the rear of their own barrage.
6. When the final objective has been consolidated they must push on at their own initiative and seek every opportunity to become pursuit cavalry. At this phase the support and possibly the reserve should join the leading tanks.

Having seen what the tanks must do and how they should do it we now consider the most advantageous formation for the accomplishment of their mission.



Deployment in depth is as necessary to them as to any other attacking troops. If we assume the present organization of platoons we find that a platoon in line with normal intervals of forty yards covers a front of 160 yards, and allowing twenty yards as the minimum effective range of the flank guns we have a platoon covering a front of 200 yards or about that of a battalion in attacking formation. Hence, with a regiment of infantry having two battalions in its attacking line and one in support we find that a company of tanks gives the desired assistance with two platoons in the front line and one in the support. The company commander thus influences the fight by the timely use of his support.

For a brigade the same result is obtained with a battalion of three companies, leaving a whole company for the reserve. The battalion commander influences the fight by the use of his reserve.

In order that tanks act in accord with infantry to which they are attached they must have similar sectors of attack carefully defined and they must have accurate maps of these sectors. Such maps should be in the possession of each chief of platoon and possibly each driver. They should be corrected daily by means of aerial photographs and reports of patrols. If possible the company commander and each chief of platoon should be allowed to see from an aeroplane the exact ground over which he is to attack. In addition to the maps of the sector a profile of the sector must be made and this together with the maps should be memorized by the platoon commanders and gunners.

As it is more difficult for tanks to reach the front line than it is for infantry they must have a carefully prepared map of the route of each platoon from its position in readiness to the position of departure, the front line trench. This route must be familiar to the chief of platoon and he should follow it by night on foot often enough to know it perfectly. He must see that the necessary crossings of his own trenches are prepared beforehand. The company commander must supervise and personally inspect these maps and routes and himself calculate accurately the time required for the platoon to go from the position of readiness to the attacking position. This time should be so arranged that the tanks will arrive at the position of departure just before the zero hour, thereby avoiding loss incident to remaining stationary under hostile bombardment.

Since a battalion of three companies is sufficient to furnish component units for an attacking brigade it is clearly useless to have larger units of command and the battalion should be the administrative and tactical unit. Where more than one battalion must be employed on a given front groups of battalions under one commander should be assigned to the temporary tactical situation.

When a battalion of light tanks and a unit of heavy tanks are engaged in the same sector there should be no connection of command lower than the division commander because of the danger that the commander of whichever group was the senior might use the tanks of the other variety to the advancement of his own tanks and the disadvantage of the other.

Should heavy and light tanks attack together, the heavy should precede the light as they are more independent. They should go right on to the last objective leaving the light tanks to mop up. When the last objective is reached, the heavy tanks should halt and allow the light tanks to pass them and assume the role of pursuit.

In a surprise attack where no barrage has cut the wire and there are no heavy tanks, there should be two heavy tanks attached to each company of light tanks whose duty it would be to cut the wire for

the infantry in a more thorough manner than is possible for the light tanks, and also to break passages for the light tanks across the uninjured hostile trenches.

Though the Renault tank does not require infantry of accompaniment in the sense of the Saint Chamond or Shnader, still one squad in each battalion to which a section of tanks is attached should be given some instruction in helping tanks across ditches by aiding in coupling them and in other ways. As the tanks carry their own tools this squad would not have to have any special equipment but would go on as riflemen.

Mobility is a most essential feature in all arms and is the chief place where the light tank has an advantage over the heavy. The latter must always be moved by rail while the light tanks can be moved by auto-truck or by trailer. If sufficient trucks capable of carrying one tank and towing another by trailer are provided, the value of the small tank is increased and its numbers practically multiplied by the number of attacks at different points which it can make in a fixed time. Also, when the enemy's line is pierced, light tanks loaded on trucks and trailers can be moved well to the front line there to take up the pursuit, or they can be hauled to the front by the heavy tanks if the ground is too bad for the trucks. To get the full value from light tanks they must have maximum mobility.

The wireless tank, one of which is provided for each company and one for each battalion, makes direction easy and also lends great assistance to the infantry, for with the company wireless tank, with the support of each infantry battalion, the infantry major may receive and send messages from and to the rear by means of the battalion tank with the reserve.

It is within the bounds of possibility that future infantry majors will go into action in their own wireless tanks, and thus the difficult problem of controlling troops after deployment will have been in a great measure solved.

Against tanks. The worst enemy of the tank is the small cannon firing directly at short range. For this purpose the Germans use the 37MM and the 77MM on a low mount. Another enemy is very wide ditches which have not been shattered by shell fire. The light tank can cross a ditch four feet nine inches wide alone and seven feet three inches wide coupled. Elephant pits have also been employed against tanks, and bombs thrown under them have damaged the former French tanks which were not protected below. As the Renault has eight MM armor plate on the bottom exceptionally heavy bombs would have to be used. The Germans have also used gas clouds to choke the carburetors. It is believed that a gas mask for the carburetor can be devised. The best defense against any and all of these methods of attack is constant movement and watchfulness and a supply of smoke bombs to mask a tank suddenly attacked by a small cannon.

#### D. INSTRUCTION

The following is the plan of instruction recommended as best suited for the quick production of personnel.

The tank center and school of instruction for each type of tank should be coincident. The officer in charge of the school for either variety should also be the commanding officer of that variety.

First, assume the case where there are sufficient tanks but no trained personnel. Send to the tank center enough men and officers to man one company in addition to the one or two available

instructors. Give all the officers and noncommissioned officers and as many of the privates as possible the full four weeks' course of instruction to be described below. At the end of this first four weeks, turn over to the personnel of the first instructed company a new mechanical unit, using which causes them to instruct the rest of their men and some men from the second company arriving at the school at the beginning of the fifth week. The officers and noncommissioned officers of this second company are to be instructed with the old materiel by the original instructors assisted by some selected men from the first company. At the end of two months we will thus have two instructed companies, who during the third month can each instruct two more companies or four companies, giving a total of six companies or two battalions instructed at the end of three months.

The advantages claimed for this system are that it turns out complete units and that it gives to the newly trained personnel a chance to put into practice at once the principles they have learned. It is also conducive to the efficient organization of the companies, as during the entire four months the officers and men are becoming used to each other and to each others' methods. At the end of the second month with the foregoing system the original instructors should cease working in the capacity of simple instructors but should supervise the whole instruction in their capacity as commanding officers.

The second case is one in which we assume a limited number of machines with no hope of increase until a definite date. Still assuming your instructors are to be the future commanding officers, send to the school as many officers and noncommissioned officers in the proportion of two to one as you can handle. It may be assumed that six men can be taught on one machine a day and that three fourths of your available machines will always be ready for service. With these men carry on the same system of instruction as in the first case for one month. At the end of this time, if there are no tanks available for the formation of companies, the graduate students should be sent to some other school, for instance a machine gun or small cannon school, until the machines arrive, holding over a few of the best as assistant instructors for the second batch of equal number which should arrive at the end of the first four weeks. This method is to my mind decidedly less efficient than the first one, as units are not formed but simply instructors taught. Moreover the instructors have no opportunity of fixing what they have learned by immediate teaching. Still, it is the method circumstances will probably cause us to adopt. If such shall be the case a certain number of men, at least three to each tank, plus cooks, noncommissioned officers and clerks, will have to be detailed to the school for fatigue, repair, etc.

In assigning men to the tank service they should not be taken at random, but selected from men who have had mechanical experience. Men who have driven automobiles or motorcycles would be of particular value, for the reason that practically all knowledge which comes to a driver concerning his motor is through the medium of the car. Sound tells him when his motor is laboring, when he should change gears, and when it needs attention from any other cause. But the aptitude to translate the sounds is only obtained through long habit and is well nigh impossible to teach. Moreover, in the teaching of it, the percentage of machines ruined will be greatly increased. This is borne out by the present difficulties of the French, all of whose men are totally ignorant of automobile motors. In addition to the men above mentioned, there should be detailed to each company one man per tank with some mechanical knowledge. Men such as blacksmiths, foundry hands, gas-fitters, or plumbers would be best.

There should be at least one regular officer per company to enforce discipline, as it is a well known fact that working with machines has a very disastrous effect upon discipline. It seems to run out of men as the oil soaks into them.

After the first month, using either of the above mentioned methods, men showing marked mechanical ability should be given extra training as repair men, with a view to their use in the battalion repair shops.

#### Details of Four Weeks System of Instruction

First week. Three equal sections, A, B, and C.

Time:

7:30	09:40	1:00	3:30
9:30	11:40	3:00	Supper
Driving	Lecture Firing	Cleaning	
A B C	B C A	C A B	A B C

Driving, first day. Take one or more trucks, jack up the hind wheels, and with motor running give lessons in shifting gears, applying brakes, acceleration, etc., at the same time telling the men how this would apply to the tank.

Second day. Same as first day, but causing the men to shift gears blindfolded.

Third day. Driving truck on roads or level fields.

Fourth day. Same as third day.

Fifth day. Have men change gears, apply brakes, steer, etc., blindfolded, at the direction of another man sitting beside them.

Sixth day. With a tank standing still show men method of entering and leaving tank, and show corresponding levers in the tank and truck.

Seventh day. No driving.

Lecture, first day. General theory of gas engines, illustrating with charts and dismantled motor. Describe the functions of various parts and the method by which they are actuated.

Second day. Ask questions to see that principles are understood and describe engine, clutch, and gear box.

Third day. Review preceding, describe gas feed and side clutches.

Fourth day. Lubrication in detail, giving special emphasis to it's importance both with respect to the motor and running gear of the tank.

Fifth day. Review of preceding, and have students make simple assemblies and dis-assemblies.

Sixth day. Practice greasing all moving parts, and ask questions.

Seventh day. No lecture.

Firing. Instruction in the mechanism of the weapons, and as progress is made during the week have the weapons fired while mounted outside the tanks. Give particular attention to the correction of jams in the machine guns. On the sixth day have firing done from stationary tank.

Cleaning. All sections, both officers and men, work on tanks, cleaning them and putting them away.

Second week. Time, sections and periods the same as the first week.

Driving. Drive tanks on level ground, changing speeds conduct them among trees or between stakes, also driving by signal from the outside both forward and backward. After the first day always require the tanks to be in battle order with all windows shut. To give driver confidence have him blindfolded and drive at the directions of the gunner. Insist that in entering and leaving tanks men do so rapidly and correctly each by his own proper door, or at command both leave by one or the other door. Insist that the helmet be put on the instant the tank is left. Sixth day, drive in gas masks, signals by touch.

Lecture. Divide each daily period into two equal halves, devoting one to the tactics, history and use of the tank in war and the other to review of the mechanical instruction of the first week.

Firing. First with tanks moving slowly forward and slowly backward; then at greater speed forward firing to a flank. Correct jams while in motion. Sixth day, firing with gas masks on.

Cleaning. All sections to clean, lubricate and put away tanks. Seventh day, from 8 a.m. to noon, all men and officers clean running gear of tank.

Third week. Time, sections and periods same as first week. Driving on rough ground, going up and down steep slopes, passing shell holes, crossing trenches singly and in pairs, helping stalled cars. All movements must first be explained and executed once slowly and thereafter with maximum speed, using a stop watch. Always do all work with tanks in battle order. In going to or from maneuver ground cause tanks to practice keeping their distance in column and forming line from column and the reverse. On the sixth day hold an examination for all men, testing them on the following subjects:

To start motor from the inside and outside.

To conduct the tank both backward and forward and halt at an indicated spot facing an indicated direction.

To conduct it both backward and forward by signals from the inside.

To conduct it both backward and forward and halt it with driver blindfolded, using either voice or touch signals.

To conduct tanks backward or forward across trenches.

To change positions of driver and gunner within the tank without opening doors.

Throughout all preceding instructions each man should act half the time as driver and half the time as gunner.

Firing. Over rough ground at various speeds in all directions at ranges up to fifty yards. Halt six pounder and three inch gun tanks, fire at target at range of three hundred yards, and immediately get off again with a change of direction. Throw smoke bombs.

Lecture. One hour of each lecture period on drill and signals, making the men go through the drill having the tanks represented by men, with reduced distances and intervals. The other hour of each period to be devoted to specific mechanical instruction.

Cleaning. All members clean and put away tanks. Seventh day, 8 a.m. to noon, all officers and men overhaul and thoroughly clean all motor parts, removing tail armor for this purpose.

Fourth week. 7:00 to 12:00. All three sections, platoon drill first on smooth ground, then on rough ground, and finally in trenches and shell holes. Last hour each morning to be devoted to simple problems, using men not in tanks to represent infantry and barrage. If sufficient machines are available the last day should be devoted to a company problem.

1:00 to 3:00. Mechanical. All sections locate and correct usual faults in motor and running gear. Accidents to be artificially brought about by instructors.

3:00 to supper. Cleaning, oiling, and putting away machines.

This course will not fit men to enter combat the instant of graduation, as the question of maps, information and camouflage has not been touched. It is thought, however, that better results will be obtained if these subjects are taught whole companies after their formation, hence the reason for omitting them in the method of training above outlined.

The four weeks course of instruction above outlined is thought ample to train any man of average intelligence without previous mechanical knowledge. For selected men or officers the course could be reduced to three weeks, the last being devoted to maps, information, and camouflage. Or the officers could be instructed on the above subjects during the evening.

In the preceding, methods only have been dealt with, the details to be left to the intelligence and ability of the instructors.

## DRILL

Commands. Commands are transmitted by signal, visual or touch, by the voice and by the example of platoon and company leaders.

Formation. The only formations are column, line of columns, and line. Intervals forty yards between tanks. Distances ten yards between tanks.

In platoon drill, column, the tank of the chief of platoon (the three inch gun tank), leads and is six yards (or the width of the road) to the left of the rest of the column. Remainder of platoon follows at normal distance in following order; first machine gun tank, first six pounder tank, second machine gun tank.

Being in column to form a line at the signal 'Line' the first six pounder tank comes up on the right of the tank of the chief of platoon. The first machine gun tank comes up on the right of the first six pounder tank. The second six pounder tank comes up on the left of the chief of platoon, and the second machine gun tank comes up on it's left. The two right and the two left tanks are each echeloned five yards back of the one next on the left and next on the right respectively, so that each tank can fire in all directions. In order to allow the rear tanks to come up the directing tank must reduce it's speed until the formation is established.

If while in line it is desired to change direction, the chief of platoon's tank does so and the remaining tanks conform, keeping their relative positions.

Being in line, to extend the intervals ten yards, the chief of platoon signals 'Line' a second time.

Being in line, to close intervals ten yards, the chief of platoon signals 'Close'.

Being in line, to form column, the chief of platoon signals 'Column' and moves in desired direction. The remaining tanks come up by the shortest line in the normal order in column.

Being in any formation, the chief of platoon observing the objective gives the signal 'Rally', at which signal all the tanks close in on the objective indicated by the direction of fire of the chief of platoon in the positions best adapted to their particular class of fire.

Company drill, column. The captain's tank followed by the signal tank leads, six yards or the width of the road to the left of the column. The three platoons follow in normal order, the distance between platoons being the same as the distance between tanks.

Being in column, to form line of columns, signal 'Column', followed by 'Line'. The captain's tank and the signal tank halt. The second platoon moves in the direction indicated by the captain's tank. The first platoon obliques to the right in column until it has an interval of one hundred and twenty yards, and guides on the second platoon. The third platoon comes up and halts in rear of the signal tank in column, and conforms thereafter to the movements of the captain.

Being in line of columns, to form line, signal 'Attention' followed by 'Line', or the signal may immediately follow the signal for line of columns and before the movement is completed. The second platoon forms line in normal order. The first platoon if already in line of columns forms line. If the signal is given before line of columns is formed the first platoon deploys at once, each tank gaining it's proper interval by the shortest route. The third platoon forms a line behind and conforms to the movements of the captain. Platoon leaders must continually watch the captain's tank for future signals.

Signals. 'Halt', action of chief. 'Forward', action of chief. 'Change direction', action of chief. 'Attention', hold red flag vertically. 'Column', move red flag up and down in a vertical plane, same as the infantry signal for double time. 'Line', wave red flag from right to left in vertical plane. 'Extended intervals', same signal. 'Diminish intervals', wave red flag from right to left and left to

right in horizontal plane. 'Rally', hold up red and yellow flags at the same time. All tanks of unit signaling 'Rally' answer by showing red flag. If a machine becomes stalled hold up yellow flag steadily. This means, 'I am stalled, disregard my movements'. If this signal is given by the tank of a chief of platoon the tank nearest him comes up to his machine and he changes to that tank and thereafter it becomes the directing tank. In addition to these flags the signal tank carries a green and white flag. When this flag is shown, it indicates 'I have a message for the infantry'. An infantry messenger should approach and receive the message.

*\* Two pages of materiel and personnel data missing here \**

## Memorandum on Trucks

The first consideration is that the traction of a truck is directly proportional to the weight on the rear wheels and equal to 60 percent of that weight.

On average roads it is known that the usual vehicle will in first speed develop more power than it has traction.

Bearing the above remarks in mind we will consider the present standard type of truck now in use, with a view to their hauling a six ton tank.

### I. Five ton truck, rear wheel drive. Chain more practical than shaft drive.

#### (a) Advantages.

1. Standard construction, making it easier to obtain, also to get spare parts, etc.
2. Possible use of truck for other work.

#### (b) Disadvantages.

1. Requires special body design for carrying tank, as the standard length of truck chassis is entirely too short to carry a tank whose total length is approximately 160 inches.
2. This reduces utility for other purposes.
3. Overload, producing undue stress on chassis on rough roads or in case of tire trouble.
4. Construction of tank makes proper distribution of weight impossible.
5. Tank loaded on standard chassis has too high center of gravity, making operation over any but the smallest grades impracticable, as a slight grade would shift at least 100 percent weight on the rear wheels in place of 60 percent.

### II. Seven and one half ton truck, rear wheel drive.

- (a) Advantages same as five ton truck except less stress on chassis on account of additional capacity.

#### (b) Disadvantages.

1. Same as five ton truck.
2. Same as five ton truck.
3. Overcome.
4. Same as five ton truck.
5. Same as five ton truck.
6. Additional weight and size reduces flexibility of operation.

### III. Four wheel drive truck (shaft).



(a) Advantages.

1. Better traction, using M/S differential lock which makes all four wheels do same amount of work.
2. With this construction it will pull through heavier ground and mud.

(b) Disadvantages.

1. Same as five ton truck, rear wheel drive.
2. Same as five ton truck.
3. Not standard make in heavy sizes.
4. Same as five ton truck.
5. Even more so than rear wheel drive.

IV. Truck with trailer to carry tank.

(a) Rear wheel drive not practicable.

1. Insufficient traction for heavy draw bar pull.
2. Not many trucks made in five ton capacity, four wheel drive.

(b) Four wheel drive.

1. A five ton four wheel drive truck with rated load has sufficient traction to pull a two ton trailer with a six ton load under favorable conditions.
2. With the use of a trailer body of truck is available for transportation of other equipment, also for general utility with trailer disconnected.

V. Truck, four wheel drive with short wheel base to be used for towing only.

1. Trailer and load on same will give sufficient traction to rear wheel of truck, while trailer wheels carry excess weight. This trailer should be equipped with the Blick attachment.

VI. A similar truck with rear wheel drive, large wheels similar to the Holt truck, would have some advantages, as it is made in a large capacity, but the additional weight and size are not advantages.

## SUMMARY

It will be seen that a four wheel drive or small towing truck are the only practicable solutions to this problem. Of course, caterpillar tractors could be used, but these are at present forbidden by the French government because of the bad effect on the roads. The machine needed is one that must have traction and power combined.

The following is an approximate example of the features of towing a tank on a trailer.

Considering that a five ton rear wheel drive truck has a load of five tons; weight of truck four tons; weight on rear wheels 60 percent or 5.4 tons; traction, say 60 percent or 6,480 pounds. Tank weighs six tons, trailer weighs two tons, total weight of truck, load, trailer and tank, seventeen tons.

Let Y equal total weight

Let X equal traction

Sine alpha equals X divided by Y



G.S. Patton, Jr.  
Captain, Cavalry

On the final page of this report is the following holograph by Patton:

This paper was and is the BASIS OF THE U.S. TANK CORPS!.  
I think it is the best technical paper I ever wrote.

  
G.S.P. jr.

## LOS ANGELES COLISEUM SPEECH

By General George S. Patton, Jr.  
Commanding General, U.S. Third Army

June 12, 1945

Your honor the Mayor, General Doolittle, soldiers, ladies and gentlemen.

It's very difficult for me to speak because what you have just seen is not a phantasm, but damn near a reality; and God forgive me, I love that sort of war.

Coming over here, from eleven thousand miles, in 23 flying hours, there was a very great lesson. The first 4 hours, we passed over a destroyed land, utterly destroyed. You who have not seen it do not know what Hell looks like from the top. That's what Germany looks like; that's what Austria looks like; that's what any place that the 8th Air Force and the Third Army worked on looks like.

Then we passed over a lot of ocean. Unfortunately, there were no Germans to kill in the ocean so we couldn't tell what it would look like when the Navy worked on it. But, we know from experience that when the Navy works on things, the things are damn well worked over.

Then we got to America and everything was wrong. There were no shell holes, there were no bomb craters. The buildings around the airport were intact, the bridges were there, the houses had roofs. It suddenly occurred to me that you who have not been at war do not realize what those of us who have been at war have done for you with our blood and your money. We, your sons, your husbands, your children of all sorts, have kept from America, so far, remember those words, SO FAR, the horrors of war. We must continue to keep it.

I, as a young lieutenant, rode a very damn good steeplechase and miscounted the number of times around the course, and pulled up, leading. And the other horses passed me. Don't do that! We're not around the course the last time yet. Don't pull up now. This war is only half won. You must win the rest of it.

You must remember this; that from Brest through various towns in southern Germany and Austria whose names I can't pronounce, but whose places I have removed, the trail of the Third Army and the 19th Tactical Air Command and the 8th Air Force is marked by more than forty thousand white crosses. Forty thousand dead Americans.

In the hospitals, more than one hundred and thirty thousand of your kindred have been treated, and they have been treated very well. In fact, they have a damn good time in the hospital.

In passing, it should be brought out that only one percent of the people who get to the hospital die. That is a very remarkable thing, and it should be very healthful to those of you who have children in the war. Remember this. In the last war a lung shot or gut shot (that means a shot in the abdomen) meant that you had a twenty percent chance of getting older. In this war you have an eighty percent chance. In fact, there is very little risk of it today.

But, there is an unfortunate tendency, I think, to equate money with blood. It cannot be avoided. When I think of the causes, when I think of that vicious fight in which forty thousand Americans died or were wounded, beginning on the 8th of November and terminating on the 19th of December, when we had to go somewhere and kill other people; mud, rivers . mud rivers; we built two thousand bridges. Your friends, your relatives, waded twenty rivers, twenty big rivers. Many of them didn't get across. Many of those who didn't get across have not been found. The rivers flow fast in that country. Then, from the 22nd of December until the end of February; fields of snow covered with dead. Dead men in awful positions. When a man is killed at 17 below, he freezes like that (snap of the fingers), and he freezes a nasty color.

I'm being as horrible as I can; maybe that's my name, perhaps, but I DON'T ENJOY IT.

I'm trying to bring back to you the fact of the things that General Doolittle and I have gone through. I'm trying to bring back to you the fact of what these soldiers have given. God-damnit, it's no fun to say to a man that you love, "Go out and get killed," and we've had to say it; and by God they have GONE and they have WON. But I want you to remember this. The sacrifice that these men have made must not be in vain. This war, is, I think only half won. You people here who, as General Doolittle said, are members of the team, must play your part. You must not only provide the money but you must provide the labor and sweat. By God, you cannot, you will not be disloyal and unfaithful to the men who have died; to the men who have been wounded.

At this point, I want to correct a grave illusion. You don't have to be dead to be a hero. People only talk about heroic dead. Well, God-damnit, there are a lot of heroic live ones. I'm not advertising either for myself or General Doolittle. He has the Congressional Medal of Honor so he doesn't have to be advertised. But here we have, I guess, 47 enlisted men, Generals, Field Officers, and Company Officers who represent your people who have all been decorated. They are the people that should be here. I am grateful. No one could come through Los Angeles as General Doolittle and as I did today without being tremendously moved. I know they cut me off about really expressing myself, so I can't go any further; but we were tremendously moved, and our hats wouldn't stay on our heads, and we didn't realize that the magnificent ovation which you gave us, and are giving us tonight, are not for us.

We are just a couple of lucky old bums born in California who represent, just like "hooks" on which you hang clothes, the debt that you owe to your soldiers, YOUR soldiers. They're your people. Just because you put a uniform on a man doesn't make him a, well, I won't say what. Some people think it does. But it doesn't. He's your son, your husband, in fact he may be even your sweetheart, since we have ladies in the Army.

But, remember these people and remember that you must, must, MUST continue this war. You must not sell short the Air Force, the Ground Force, and the Navy. You must produce the sweat, the money to destroy those indescribable people. Though modesty prevents my properly describing them.

In closing, I wish to thank the mayor and committee for a most magnificent spectacle and I wish that you would join me in saluting General Doolittle and the heroic soldiers of the Third Army who are behind me now and who have always been behind me.

## MECHANIZATION AND CAVALRY

By Major G.S. Patton, Jr., Cavalry  
&  
Major C.C. Benson, Cavalry

Cavalry Journal  
1930

The cavalry has been in a good many tight places during the last thousand years, but it has always managed to keep one jump ahead of its rivals. When the clothyard shafts of English bowmen mowed down the flower of French chivalry at Crecy in 1346, it appeared that horsemen had met their match. Had they been bound to the tactics previously in vogue, the Cavalry might shortly have disappeared. Later the use of gunpowder threatened to drive Cavalry from the field; but it adopted the despised firearms and soon regained its lost prestige. When the improvement of firearms again placed the Cavalryman at a disadvantage, he discarded his heavy armor and learned once more to charge in mass at speed. The Cavalry of Frederick the Great and Napoleon, despite improved firearms, scored many decisive victories. The development of accurate long-range rifles, and more recently, machine guns, has again put Cavalrymen to the test of adaptability. The question is now raised, as it has been raised many times in the past, is Cavalry still useful enough to justify its existence? For authoritative answers to this question, we look to the well considered views of experienced military leaders. Here is what some of them have to say about Cavalry:

General John J. Pershing, "There is not in the world today an officer of distinction, recognized as an authority on military matters in a broad way, who does not declare with emphasis that Cavalry is as important today as it has ever been."

Field Marshal Sir Douglas Haig, "Cavalry is indispensable, not only to act as mobile Infantry, but to reap the fruits of victory. Infantry and Artillery can win battles; only Cavalry can make them worth winning."

Marshal Foch, "On the Western Front, Cavalry especially participated in the defensive battles, where they were engaged in the most difficult moment. The large Cavalry units, thanks to their own mobility, were able to intervene in time and bring the precious assistance of their fire to the weak points of the defense."

Marshal Hindenburg, "Cavalry will continue to be important. There were many times when I wished I had more of it."

General Ludendorff, "The Cavalry was of the greatest importance and service to me in all campaigns of movement. In the March, 1918, offensive, I felt seriously handicapped by lack of Cavalry."

In offensive and defensive actions in stabilized situations, as well as in warfare of movement, modern Cavalry has proven its value. One final comment, to bring the record more closely up to date, is taken from an address by General Charles P. Summerall on August 12, 1927, "There has been a great deal of misinformation broadcast relative to the Cavalry. It is a fact that Cavalry is of far more importance than it has ever been."

Since these views were expressed, a new problem has arisen what to do about fast cross country fighting machines? This problem concerns not only the Cavalry, but also the Infantry, the Artillery, Engineers, Signal Corps, supply services, and Air Forces. The armored vehicles now being built are practically immune to air attacks; they have high strategical and tactical mobility, and can drive far into the enemy's territory to attack installations, including airdromes, that have heretofore been regarded as secure. As the Cavalry is particularly charged with providing security for other forces, it naturally devolves upon the Cavalry to devise ways and means to neutralize these new weapons. To bury our heads, ostrich like, and ignore them, would be foolish. Foreign nations are proceeding with dispatch to perfect tanks, armored cars, self propelled gun mounts, and their auxiliaries. More and more of their tactical thought is being centered upon the use of these machines. We may have to face them in future wars, whether we are ready or not. All branches are vitally concerned with the problems that ground fighting machines are thrusting upon them; and so far as the Cavalry is concerned, we propose to face the issue squarely right now.

Can fighting machines replace Cavalry? Much has been written about the power of machines, and all too little about their limitations. Granting that armored caterpillar vehicles can crash through belts of barbed wire and attack machine guns with impunity, let us examine some of the limitations, that apply but feebly to Cavalry, which will restrict the use of machines. The principal items are supply, control, and terrain.

The question of supply is far more binding upon machines than upon Cavalry. Unlike men and horses, machines must have full rations. Even with full rations, their mechanical condition and efficiency deteriorate rapidly in field service. A liberal quota of replacement parts must be supplied, in addition to gas, oil, and grease, to keep the machines running. Furthermore, these supplies must arrive regularly, at timely intervals, or the machines will quit in their tracks. Once immobilized, they are easily destroyed. During the German drives in the Spring of 1918, British tank crews had to abandon and demolish over two hundred heavy tanks that had run out of gas; but it is not recorded that any of the British Cavalrymen who helped stem the tide had to blow up their horses. With faster machines and more adequate measures for the supply of combat elements, it is true that many of the previous difficulties can be overcome. However, gasoline burns so readily that it requires a rare stretch of imagination to picture a horde of machines living off the country, as Cavalry has done many times in the past. Tank drivers are resourceful, but they have not yet learned how to dismount and lead.

Another important restriction on the use of machines is that imposed by the difficulties of control. Speed and power without control are useless. The British have been using radio phones in their tanks since 1926, and probably have the best control devices in the world. However, they have been unable to utilize in maneuvers more than half of the rated mobility of their machines. Accounts of their 1929 maneuvers indicate chaotic confusion in the engagement of comparatively small Tank units especially when Infantry of the opposing sides became involved in the melee. Dust and smoke rendered signal flags useless, and silenced the guns because it was impossible to distinguish friend from foe. Until reliable and rapid communications can be established and maintained between fighting machines, it will be practically out of the question for them to cooperate effectively in a sustained action.

A third limitation is that imposed by natural and artificial features of the terrain. Obstacles that appear trifling to a well mounted Cavalryman often put a serious handicap upon machines. Armored cars of the wheeled type, operating in woods, mountains, or where there are numerous streams, are practically confined to the roads. A mine or mine crater in the road, a bridge

destroyed, a barricade, or a fallen tree, and the machine is stopped, perhaps under fire in a position from which withdrawal is difficult. The best of these machines, the French Berliet six-wheeler, has some remarkable cross country performances to its credit; but even this excellent machine becomes sluggish and difficult to control when forced to negotiate steep slopes or fields strewn with boulders. In rough going, the wheeled machine has less mobility than the Cavalryman, and its weapons are almost useless because the gunners cannot take good aim. In close country, where the machine has to stick to roads, its value as a fighting vehicle is materially reduced. The present Cavalry weapons, if resolutely and resourcefully used, are sufficient to neutralize wheeled vehicles on the roads. In flat country, the wheeled vehicle can operate across country with great freedom. The British and French have made effective use of wheeled machines in northern Africa, Asia Minor, and India. However, important military operations are seldom conducted in desert country; consequently, opportunities for the employment of wheeled vehicles under advantageous conditions will be limited.

Modern fast tanks are much more formidable. They can travel across country over extremely difficult ground, and can avoid or crush many obstacles that would stop a wheeled machine. In woods or mountainous country, they too are confined to the roads, and are thus at a distinct disadvantage as compared to the Cavalryman. They cannot operate effectively where precipitous slopes, boulders, or streams obstruct their progress. Their rate of speed and accuracy of fire are considerably reduced by uneven ground, and they can readily be destroyed if they venture into areas that are unsuited to their proper use. The bogs of Flanders became the graveyard of many British tanks.

The combination wheel and track machine is the most adaptable to varying conditions of road and terrain. One machine of this type, using wheels, has attained the rate of seventy miles an hour on a concrete road. Across country, on tracks, it has done better than forty-two for a short distance; and has averaged over fourteen for hour after hour, through rain, mud, red clay, and deep sand on the test course. The writers have observed closely the performance of this machine ever since it was first submitted for test in October, 1928, and are convinced from personal experience that it is a powerful weapon. They also know from personal experience that neither this machine nor any other that has yet been invented, could operate in those parts of northern Chihuahua where our Cavalry not so long ago rounded up several hundred of Villa's followers. Even the most versatile machine could not have gone where our Cavalry had to go.

Regardless of the progress made in the development of fighting machines, Cavalry will always be necessary. It will hold its own because no other agency can perform Cavalry duties with equal reliability and dispatch. It can operate effectively in woods and mountains where machines cannot go; and whether its supply trains come through or not, it can carry on day and night under any conditions of roads or weather. To expect mechanical vehicles impotent without regular supplies, blind and deaf to control, and restricted by terrain, to take over these duties, is to expect the impossible. Each arm has its limitations and its proper sphere of usefulness.

Instead of rivalry, there should be union to insure strength. The Infantry had its heavily armored tanks to lead the assault; the Cavalry should have fast cross country machines for extended rapid maneuver in operations against the enemy's front, flanks, and rear. The union of Cavalry and mechanized units equipped for rapid maneuver would be natural, for they have much in common. Both are highly mobile; their tactics are similar; their actions develop and culminate rapidly; and their commanders, to be successful, must possess like traits. Each supplies in generous measure what the other lacks. We have dwelt upon the limitations of fighting machines in order to

counteract the present tendency to overrate their powers; but to deny that they are valuable weapons would be absurd. On suitable terrain, armored fighting machines are indeed formidable. The obvious thing for the Cavalryman to do is to accept the fighting machine as a partner, and thus prepare to meet more fully the demands of future warfare.

How can fighting machines assist the Cavalry? First, by helping to protect Cavalry against the enemy's aircraft and armored vehicles. Protection against air attacks can be made remarkably effective by using machines armed with machine guns to cover the front, flanks, and rear of Cavalry on the march. Machine gunners thus mounted could engage the enemy, without wasting any time in placing their weapons in the firing position, before the hostile aircraft could reach the Cavalry main body. The 1929 CAVALRY FIELD MANUAL (page 395) states, "Machine guns, once they are in position and ready for action, constitute Cavalry's most effective weapon against hostile aircraft. When mounted upon motor vehicles, they afford ideal antiaircraft protection for Cavalry on the march." So far as antiaircraft protection is concerned, unarmored machines would be satisfactory; but we must also consider the enemy's fast tanks and armored cars. In 1922 a study prepared at the Cavalry School raised various questions concerning Cavalry methods of defense against these new weapons. During the eight years that have elapsed since those questions were raised, fighting machines have been greatly improved. Defense against modern machines, especially in open country during the daylight hours, will be extremely difficult unless our Cavalry has a liberal quota of fast cross country vehicles with which to neutralize those of the enemy.

If provided with machines for its own security, Cavalry will be better able to gain information and to provide security for other forces. On reconnaissance in open country, its armored vehicles can cover long distances at a high rate of speed; and under favorable conditions, the machines will be of great value in extending the reach of the Cavalry. For counter reconnaissance, Cavalry patrols could establish the screen and the machines, held centrally in reserve, could use their high mobility on previously reconnoitered terrain to drive back aggressive hostile forces. On flank guard work, the business of getting patrols out soon enough and far enough would be much simplified wherever the terrain permitted the use of machines. With a Cavalry rear guard, and in delaying actions, armored vehicles could protect our flanks and threaten those of the enemy; make offensive returns to check the enemy's progress; or remain concealed in selected positions to cover the withdrawal of mounted troops. When Cavalry has to hold a defensive position, its fighting machines could initially cover the position and eventually serve as a mobile reserve for counter attacks. In short, wherever the terrain is suitable and particularly in open country, fighting machines will be to the Cavalry what Cavalry is to the Infantry.

For offensive operations in open country, Cavalry can use fighting machines to great advantage. The CAVALRY FIELD MANUAL (page 373) states; "Tanks are valuable offensive weapons in practically all forms of combat where intense or stubborn resistance is to be overcome. Their use for this purpose facilitates a more rapid advance of Cavalry." In an attack against troops in a defensive position, and during the initial stages of exploiting a breakthrough, there will be excellent opportunities for the employment of these machines. To mount an attack of sufficient magnitude to make a breakthrough requires immense supplies, whose movement congests the roads; but Cavalry and its fighting machines can move to their appointed places across country. Heretofore, resistance met in passing through the breach has been costly to Cavalry both in time and in casualties. Fast cross country fighting machines can materially reduce these delays and losses, and thus enable the Cavalry to get through more quickly and in greater strength. In both direct and parallel pursuit, the machines can again render valuable service by helping to brush aside delaying detachments and by preceding the Cavalry to distant defiles or bridges. So long as the terrain



permits vehicles to operate effectively, their use in conjunction with pursuing Cavalry will produce more decisive results than either arm could secure alone. The fighting machine will conserve the strength of mounted troops and will contribute materially to their combat power.

One company of light tanks (infantry), and one squadron of armored cars (cavalry), are now authorized for each cavalry division. Unfortunately, there are at present no fast tanks available, and we have only about half a dozen armored cars. If our Cavalry is to study and apply the new methods that fast tanks and armored cars provide, it must have the necessary equipment.

The fighting machine is here to stay, and if our Cavalry has not lost its traditional alertness and adaptability, we will frankly accept it as its true worth. If the 14th Century knight could adapt himself to gunpowder, we should have no fear of oil, grease, and motors. Confident of our own power, we should give to the fighting machine the serious thought that it deserves. Field Marshal Allenby, one of the ablest Cavalrymen of our times, said recently, "I have never felt more confidence in our arm than I do today. It has retained the good, rejected the bad, and has not shrunk from the new."

## MECHANIZED FORCES

By Major George S. Patton, Jr.  
3rd Cavalry

The Cavalry Journal  
September – October 1933

*A Lecture Given to the Regular Officers at Fort Myer, Virginia, in January; at Fort Humphreys in March; and to Reserve Officers at Fort Myer in August, 1933.*

Many soldiers are led to faulty ideas of war by knowing too much about too little.

A picture without a background is both uninteresting and misleading. Hence, in order to paint you an intelligent picture of Mechanization as it exists today, we must provide an historical background.

The appearance of armored fighting vehicles in the World War was a striking reaffirmation of the old adage: "There is nothing new under the sun." After the failure of the German attacks of August and September, 1914, first political and then tactical considerations arose, which made the resumption of a successful offensive well nigh impossible. Neither valor nor ballistics could overcome for long the heightened power of resistance inherent in automatic weapons, barbed wire, and trenches. This ascendancy of the defense over the offense was not new. All through history victory has oscillated between the spear and the shield, the wall and the charge, tactics and technique.

Because of their truly startling parallelism let us investigate two sets of cases. In 1096 B.C., nine years of Hellenic valor had failed to breach the Trojan walls. Then came the Wooden Horse, which by carrying men unscathed within that impregnable circle destroyed in a night Priam's mighty fort. Again in 318 B.C., the walls and ditches of Tyre withstood for a year the furious assaults of the best troops of the day only to fall in their turn before the moving towers of Alexander.

Now let us turn to 1914–16 A.D. Here we find that the inverted wall (the trench) and the inverted ditch (barbed wire) had again rendered assaults abortive until in their turn they succumbed to the modern version of the wooden horse and the moving tower, which during the winter of 1915-16 had been simultaneously re-evolved by England and France. The striking circumstance that, thousands of years later, necessity had again begat of invention identical solutions for identical problems is truly arresting.

The French, following the lead of Ulysses, thought of their "chars d'assaut" as armored carriers destined to transport groups of infantry, unscathed, across No Man's Land, through the wire and over the trenches and then disgorge them in the enemy's rear. The British, on the other hand, followed the Macedonian idea and constructed not carriers, but mechanical fighters whose duty it was to shoot down resistance, smash wire, and bridge trenches so as to render the infantry assault less impossible.

Unfortunately for the French plan, that mutual esteem and confidence usually existing between allies prevented either nation from informing the other of its invention so that, when the French

had some hundreds of machines almost ready for a surprise attack, the British spilled the beans by jumping off on the Somme on September 15, 1916, with a handful of tanks. Since surprise, on which the French had counted for success, was then impossible, they had to revamp their carriers into improvised fighters. The results of this change were the ponderous St. Chamonds and the feeble Schneiders, in which many valiant Frenchmen were roasted and from which few Germans were killed.

The British idea having triumphed, the Allies and later the Germans made more and more tanks, but, due to the lag phase of about a year which has always intervened between design and production, the tanks were always just inadequate to the complete accomplishment of their tasks. The Mark VIII or, as we call it, the Liberty was the crowning glory of this lag business, in that, while much money and effort were expended on it for the specific purpose of forcing the Hindenburg Line, the war was over some months before the first tank appeared. It is pertinent to remark that for the future a similar fate probably awaits machines.

As the war progressed a doctrine for the use of tanks was evolved which was officially stated as follows: "Tanks are an auxiliary arm whose mission it is to facilitate the advance of the assault infantry. To do this they must so act as to bridge the gap between the lifting of the barrage and the arrival of the bayonet." Towards the very close of the war a corollary was added to the effect that, since machine guns were the enemy to tactical maneuver and tanks were the enemy to the machine gun, tanks had the added function of restoring maneuver to tactics. Within its limits the tank achieved the results as indicated above.

After the Armistice, the natural antipathy aroused in the public mind by the appalling losses of a war of attrition, coupled with the belief that their reduced and dwindling manpower and horsepower would prove inadequate to another such struggle, caused the British to expand the idea of mechanization to the field of strategy, in the hope that by its use they could restore movement and so pave the way for shorter and more decisive wars. While other nations have failed to visualize identical means they are all more or less alive to the necessity of devising some form of warfare which will prevent stabilization. For example, we find General von Seeckt writing, "When recourse must be had to arms, is it necessary that whole peoples hurl themselves at each other's throats? Can masses be handled with decisive strategy? Will not future wars of masses again end in stalemate? Perhaps the principle of the "levee en masse" is out of date? It becomes immobile; cannot maneuver. Therefore it cannot conquer; it can only stifle." Elsewhere he says, "The "levee en masse" failed to annihilate decisively the enemy on the battlefield. It generated into the attrition of trench warfare. Germany was beaten down, not conquered. The results of the war were not proportionate to the sacrifices."

Writing in 1930, General Debeney says, "Germany has in effect 250,000 regulars of long service. We are prone to believe that this is the best modern form." As a reason for this statement he says that small armies of regulars are always ready for war and can maneuver fast.

With the possible exception of England most of the thought expended on solving the problem of avoiding stabilization has been concentrated on a solution for the situation as it exists in western Europe. No notice has been taken of the fact that in practically every other possible theater of war, physical conditions exist which of themselves preclude stabilization. For example, in Western Europe, there is one mile of improved hard surfaced road for every six-tenths of a square mile of country. In the Northeastern United States, the next best roaded area, there is one mile of improved road for every one and eight-tenths square miles, only one third as good. For the United States as a

whole, the ratio is one to four and a half. In Mexico we find one to five hundred and thirty; in China one to one hundred and twenty-three.

We know that in order to maintain the man density necessary for stabilization, even on the relatively short battle front of Western Europe, we used the roads to their maximum capacity. Without pressing the discussion further it is therefore evident that, in bigger theaters of war with poorer road nets, the masses necessary for the holding of continuous lines cannot be supplied and hence cannot be used. Where continuous lines are not occupied, flanks reappear and bring with them their natural corollary, maneuver. In spite of this fact the want of perspective I have alluded to still induces most of us to visualize future battles as simple repetitions of the butting matches of the World War, while soldiers who talk of forces smaller than groups of armies are considered pikers. However, within the last few years, certain signs have appeared which indicate that the tide has turned and that some thought will henceforth be given to fighting wars of maneuver. Let me explain my personal views as to the way mechanized forces will be employed in such wars. We will start with an approved War Department Definition, "A Mechanized Force is one which is not only transported in motor vehicles, but also fights from some or all of them, the vehicles themselves having armament and protective armor." Further, the War Department has decided that the allotment of fighting vehicles to arms shall be along functional lines. That is, vehicles appropriate the traditional tactics of cavalry shall pertain to the cavalry, those appropriate to the traditional functions of the infantry to the infantry, and so on.

Due to the fact that we entered the World War in the middle, we had no experience of those secondary but none the less vital operations incident to the opening phases of all wars and to the entire duration of those waged on the maneuver basis. Since cavalry is the army chiefly used in these so-called minor operations, I shall begin by discussing it and shall point out my conception of how mechanized and horse cavalry will function in such operations.

The chief advantages of Mechanized units are:

1. They possess, under many conditions of terrain and weather, a wider range of strategic and tactical speeds than do any other ground troops.
2. They possess, again under suitable conditions, more rapid tactical mobility than do any other ground troops.
3. Their armor gives them such immunity to many present types of small arms fire that they can develop a maximum of tactical effect in a minimum of time.

Their principal disadvantages are:

1. Being blind, deaf, and having no sensory nerves nor instinct of self preservation, they are very fatiguing to operate.
2. At night, in the presence of the enemy, they are practically incapable of independent movement.
3. They are extremely sensitive to ground and weather conditions.
4. They are no longer a novelty.

5. The increased use of large caliber antitank machine guns and the reported invention of a 5,000 foot per second .30 caliber bullet will increase machine casualties.

Remembering these things let us see how we may employ machines in minor operations. Heretofore such tasks as reconnaissance, counter reconnaissance, the seizure of critical points, delaying actions, flanking operations, and the combats incident to the same have devolved on the cavalry and the air corps.

For the purpose of strategic reconnaissance the armored car occupies a position intermediate between the airplane and a horse patrol. When terrain and weather permit, armored cars can go far and fast; they can secure both positive and negative information and obtain identifications. Their radio equipment should permit them to make prompt reports. On the other hand, their inabilities at night limit their employment.

Armored cars can locate the critical points on the contour of the enemy advance when such points occur on the roads but they cannot trace the curve between the highways nor can they maintain continuous observation. Hence, when the enemy is distant their observations are adequate; as he draws nearer and more minute information is important, they need help.

As the opposing forces approach each other, both sides will attempt to veil their movements by the use of counter reconnaissance. It will then be necessary to fight for information. In 1914, the British stated that all the information they got had to be fought for.

Where the resistance encountered is of a minor nature, armored cars can brush it aside. Where it is more serious or where the country is wooded, full of tall crops, or mountainous, the cars lack the necessary combat power and must be helped. The form in which this assistance should be supplied depends on the distance to the front at which the contacts occur. If close in, horse cavalry is best; if farther out, light tanks, or as they are called in the cavalry, combat cars, will be needed. Moving on roads already patrolled by the armored cars, the tanks can go faster than horses and for a longer time. When they arrive they have sufficient cross country power to make limited turning movements and so compel the enemy to either pull out or show his strength.

For distant reconnaissance against a determined enemy and for pursuits, still another type of mechanical unit is necessary.

Any stream large enough to be shown on a one-inch map is an obstacle to machines. If it is defended it is a serious obstacle. Many motor maniacs do not admit this, but talk largely of using their speed to go around. When, however, we consider the difficulty of getting orders to mechanized units, the time necessary to determine and then reconnoiter new routes, and the delays incident to enemy actions, it is certain that mechanized units must often choose between forcing a passage or abandoning a mission.

To force a passage a bridge head must be established; to do this we must have footmen and in considerable numbers. If these men are transported in trucks much time is lost in detrucking on the road, often at the limit of artillery range, and then deploying into approach formation and walking to the firing line while carrying their accompanying weapons. For a force which must depend for success on celerity such a procedure is too slow. To be available in time, these foot fighters or portee troops must be conveyed in light unarmored track-laying vehicles which can move across country when that country is covered by the armored cars and tanks. Moving fan-wise, these

carriers deploy under cover close to the scene of action, and their crews (less the driver) have only a short walk into combat.

Before leaving the question of mechanical reconnaissance, it is useful to point out that in horse cavalry we have at all times the three types of units so far described. Patrols equal armored cars, mounted reserves equal tanks, and dismounted troopers equal foot fighters. As ever, there is nothing new. Only the speed ranges and the universality of employment differ somewhat. Next, it is interesting to recall that in war the maps are of small scale, signs missing or in a foreign language, and the people often hostile and always dumb. Try driving at forty miles an hour in a strange country without signs and see where you get. Finally, let me remind you that since, for the immediate future at least, the major parts of all armies will be muscle propelled, information of conditions miles in advance will often be stale before those needing it arrive.

A British writer states that had mechanized forces existed in Palestine and Mesopotamia in 1917/18, the greatest distance to the front at which they could have been usefully employed would have been 150 miles. Beyond that range the number of supply trains doubles, and intermediate camps must be established.

For counter reconnaissance, armored cars are adequate on the roads by daylight. Off the roads, or anywhere at night, neither they nor tanks are useful. Without lights they are stationary; with lights they can be avoided. A fair sort of screen could be made by establishing a line of standing patrols from men in the portee echelon. However, better results will come from using horse cavalry for counter reconnaissance and backing it up with the mechanized forces as a fast reserve to move rapidly to any point where a penetration threatens. You will please notice that, since the horse cavalry covers the front, the mechanized force is immune from the need of reconnoitering for itself, so can go fast. Where columns of machines must move without previous reconnaissance, their rate is very slow as they can be so easily ambushed.

All operations incident to the seizure of critical points, delays, flanking operations, and pursuits demand for their successful accomplishment rapid reconnaissance, fast marching, short violent attacks, and the holding of delaying positions. A command consisting of armored cars, tanks, and foot fighters carried in track laying vehicles possesses all the elements save one necessary to the accomplishment of the above tasks, either alone or in conjunction with horse cavalry. The missing element is, of course, supporting artillery.

On the offensive a mechanized force such as just described would work in general as follows; cover it's defensive flank with armored car patrols, dismount some of it's portee elements supported by the attached artillery to execute the holding attack, send the rest of the portee elements and all the tanks by road preceded by the armored cars as advance guard to some place from which this maneuvering force can launch an attack against the enemy's flank or rear. When the attack starts, the armored cars, relieved of advance guard duty, assume the role of flank patrols. Here we have the tanks as the charging element, the portee troops as the dismounted cavalry, and the armored cars as patrols.

On the defensive, the foot fighters, deployed at very wide intervals, hold the line; great extension is permissible as the carriers are deployed behind the line like lead horses and no employment is necessary in withdrawing, as is the case where infantry have to converge on trucks. The artillery supports the line. The armored cars cover the flanks, and the tanks act as a mounted reserve.

Thus far I have confined my remarks chiefly to machines acting alone, as this is the most novel and least well understood problem now confronting us. It is my opinion, however, that such operations will be the exception rather than the rule and that in general, mechanized and horse cavalry will operate together. When the two types are combined we have nothing complicated to distract us, since both possess identical tactical and strategic characteristics, the relative advantage being the ability to shift from one to the other according to the nature of the terrain in which the actions occur.

Very often it will be necessary to form composite commands in which combat cars and carrier units operate directly with horse cavalry. Think, for example, of the possibilities of a combat car charge instantly exploited by horsemen. Or of a pivot of maneuver formed by portee troops, while the combat cars and horsemen move out rapidly to clinch the victory by a flank attack.

For night marches, and there will be many of them in the next war, machines must always be preceded by horsemen or else become the victims of ambush.

Coming now to major operations and still remembering the functional distinction of which I have spoken, we find that machines used in major operations act as infantry and belong to it. In offensive battle, it is my opinion that tanks should be held as an offensive reserve for the delivery of the main blow. The timely employment of a reserve composed of footmen in a force the size of a division is most difficult due to the lag which exists between the moment when the situation indicates it's use and the time it gets into action. In the corps the conditions are even worse.

Geographically, the area occupied by a tank unit is much smaller than that occupied by an equivalent force of infantry. Hence, the tanks are easier to hide and can come closer to the front.

Tanks move at least four times as fast as infantry.

Tanks develop the full power of their blow at once, infantry must build up it's attack.

When tanks are used in this way their assault must be prepared by the greatest possible artillery concentration. If an air attack using bombs and smoke can just precede the tanks, so much the better. Tanks need all the help they can get. Antitank weapons are improving daily, and the novelty which saved us in France no longer exists.

On the defensive, infantry tanks and cavalry mechanized forces will be used for offensive returns against enemy enveloping movements or for direct counter attacks against penetrations.

The portee units of mechanized cavalry will also be very useful in filling temporary gaps in a line of battle, though horse cavalry is generally more suitable, since it is even less a slave to roads.

Possibly some of you may have noticed that so far I have not dealt with the famous American pastime of raids. A moment's reflection should convince any one that the advent of the radio and the airplane have made this always dubious operation still less promising. Secrecy, night marches, the ability to live off the country, avoid roads, and swim rivers, are more important than ever. Mechanized forces have none of these qualities. The operations of large independent mechanized forces much heralded abroad are nothing but big raids and are discarded for the same reason.

Next it is pertinent to consider the question of where the machines we talk about are coming from. At the moment, the United States possesses some old Renault tanks and some Mark VIIIs. While neither make has any of the characteristics of a modern fighting machine, as hoped for, except armor plate, they will be used in an emergency, at least they will draw fire.

Of the few machines built since the World War, only about one half have armor plate. This procurement of such plate is most difficult, and this fact will materially limit the speed of hasty rearmament.

Certain writers have said that just as the Mongols conquered by exploiting their resources in horses and horsemanship, so should modern industrial nations conquer by exploiting their supremacy in the automotive world. The comparison is not exact. The Mongol used in unaltered form his normal means of transportation and food the horse. Had some abstruse military reason made it necessary for him to fight only on, "Gray Mares with one China eye," his style would have been cramped, his numbers reduced, and his replacement problems augmented. Armored fighting vehicles are Gray Mares. They are special costly machines with no commercial use. Hardly a part of them is standard. Also, they become obsolescent before they are finished. For this reason no nation will ever start a war with many machines. Those that exist will be expended rather rapidly. Suppose we put the date of their final extinction at three months. Those who know state that a period of from twelve to fifteen months will elapse before replacement machines planned to be manufactured at the beginning of the war will become available. This means that, for a period of from nine months to a year, mechanized forces will cease to exist except for some extemporized armored cars on commercial chassis. Yet, fighting will still go on. God takes care of horse replacements.

In closing, let me remind you of just one more thing. When Samson took the fresh jawbone of an ass and slew a thousand men therewith, he probably started such a vogue for the weapon, especially among the Philistines, that for years no prudent donkey dared to bray. Yet, despite its initial popularity, it was discarded and now appears only as a barrage instrument for acrimonious debate.

History is replete with countless other instances of military implements each in its day heralded as the last word, the key to victory, yet, each in its turn subsiding to its useful, but inconspicuous niche.

Today machines hold the place formerly occupied by the jawbone, the elephant, armor, the long bow, gun powder, and latterly, the submarine.

They, too, shall pass. To me it seems that any person who would scrap the old age-tried arms for this new "ism" is as foolish as the poor man who, on seeing an overcoat, pawned his shirt and pants to buy it.

New weapons are useful in that they add to the repertoire of killing, but, be they tank or tomahawk, weapons are only weapons after all. Wars may be fought with weapons, but they are won by men.

It is the spirit of the men who follow and of the man who leads that gains the victory. In biblical times this spirit was ascribed and, probably with some justice, to the Lord. It was the spirit of the Lord, COURAGE, that came mightily upon Samson at Lehi which gained the victory, not the jawbone of an ass.



## MOTORIZATION AND MECHANIZATION IN THE CAVALRY

By Major George S. Patton, Jr., Cavalry

Cavalry Journal  
1930

“Future wars,” said General Pershing, “May begin in the air but they will end in the mud.” Nor was the seventy year old remark of a Russian officer to McClellan less appropriate when he said, “In war, all roads are bad.”

Yet, since that far distant day when the transcendent genius or an unknown savage devised the wheel as an aid to locomotion, the ROAD in all its forms from marble to chickenwire has played the predominant role in the bellicose meanderings of mankind.

### MOTORIZED SUPPLY

The invention of the motor car and its variants has not only failed to alter this condition but has in fact emphasized it.

The mechano-military experiences of our army form an apt illustration. First, in Chihuahua, roads in the normal acceptance of the term did not exist, so that their construction and maintenance constituted one of our prime considerations, with the result that though the task was difficult it was in a measure accomplished and the trucks passed through. In France, on the other hand, the situation was wholly different. There the enormous network of good roads so facilitated truck movements as to give us an exaggerated idea of its ease and possibilities.

Yet, in neither France nor Mexico, were our roads subject to enemy attack so that in this respect our experience lacks finality.

Now, while the two cases cited are diametrically opposed, it is none the less certain that in any theater of war, save Western Europe, the general condition of roads will approximate more nearly to those of Mexico. For example, in the continental United States at the present time less than six and a half percent of roads are improved. As a consequence, it is patent that our previous exaggerated expectations in the line of culinary and lethal conveniences will have to be rigorously curtailed.

It is realized that these statements will be challenged by that vast fraternity of motorists who spend their Sundays in pleasant perambulations along our arterial highways. But let these skeptics try our vastly more numerous byways and the valor of their ignorance will be abated. Moreover, let them remember that the difficulties they encounter are as nothing to the conditions which would confront the hundredth truck of a convoy.

If, for example, the Wilderness campaign of 1864 were reenacted on the same terrain with modern equipment, it is highly problematical if either side could maintain forces materially larger than those of Grant and Lee; while if an attempt were made to maintain World War standards in supplies and munitions the number of men would have to be considerably reduced.

Again, what Leavenworth graduate honestly believes that the blithe deployments and marvelous marches his phantom armies have made on the old Atchison pike could be accomplished during wet weather?

It may seem that we are over stressing the question of roads but such is not the case. They are the Alpha and Omega of military operations and their number and condition will absolutely determine the character of the next war. Truly, there is grave danger lest the statement "Weather cool, roads dry and hard, all bridges two-way, and up to fifteen tons" so often appearing in the general situations of map problems, may be taken seriously and delude us into a belief in the existence of such Elysian fields of war.

Vast concentrations, such as we saw in Europe cannot exist if they cannot be fed. Hence, in most parts of the earth contending forces will be smaller or else tied like unborn babies to the placenta of a railway or river line. This reduction of forces will result in making the creation of flankless lines impossible.

As a consequence, maneuver will reappear. Time will again become the vital factor and TIME will not suffice for the assemblage of the enormous quantities of shells, guns, and material requisite for the set piece attack. When a choice must be made between the maw of the guns and the bellies of the men, the bellies win.

Before proceeding it is important to emphasize that our remarks are in no way intended to belittle the importance of motor transport. No matter how clearly we envisage the recrudescence of war of movement, the fact remains that progress and the memories of 1918 have conspired together so to increase the complexity of our requirements that, no matter where we fight, the maintenance of the minimum supplies on which existence will be possible will require a maximum effort and one which can only be met by the employment of the utmost usable number of motor vehicles.

What we do wish to emphasize is the fact that such transport will have to surmount difficulties undreamed of on a holiday tour.

## ROLE OF MOTOR COMBAT VEHICLES

Thus far we have been dealing with motors solely from the supply angle. Their usefulness as combat vehicles whether mounted on wheels or on caterpillars is equally important. In the remainder of this paper we shall consider these machines in all the various situations under which they may be employed either with or against Cavalry.

Before beginning this phase of our inquiry it seems relevant to advert once more to history in order definitely to confound blithesome theories of the self styled mechanists or scientific warriors who are so exhilarated by the gaseous exhalations of their pet machines as to be oblivious to the necessity for more prosaic arms.

It is confidently asserted that if any one of these gentlemen will take the trouble personally to examine the districts made famous by the Peninsular and Bull Run campaigns of '62, of the Wilderness campaign of '64, he will have to admit that no machine yet made or dreamed of could have replaced to any appreciable degree the man on foot or the man on horseback.

True, there are a limited number of gasoline neophytes who, while admitting the impossibility of using machines in such country, avoid the issue by the happy statement that, in future, wars will not take place in that sort of country. The futility of such evasions seems almost too flagrant to merit remark, yet due to their insidious influence on the mechanically minded and gullible public it is necessary to answer them.

In the first place, any army deficient in fighting machines will inevitably do its utmost to nullify this defect by the use of geographical features inimical to machines. An airplane journey along the Atlantic seaboard will quickly convince the timorous passenger, eagerly searching for safe emergency landing fields, that forests and wooded country are more notable for their presence than for their absence even in this highly industrialized section.

Having had the honor of commanding tanks in action, we are the last to belittle their importance, but knowing their limitations as we do, we are unalterably opposed to the assigning to them of powers which they do not possess. Such action not only foredooms them to failure, but also condemns the army which relies on them to disaster and defeat.

History is replete with accounts of military inventions, each heralded by its disciples as the "dernier cri." Of yore the chariot, the elephant and, later, gunpowder were severally acclaimed as the mistress of the battlefield. Within our memory the dynamite gun and the submarine were similarly lauded. Now, gas, the tank, and the airplane share with each other this dubious honor. The glory of the skyrocket elicits our applause; the splash of its charred stick is unnoticed.

The inevitable fate of these specialties remind us of that verse of the Rubaiyat which reads:

"When you and I beyond the grave are passed, Oh! what a long, long time the world shall last,  
Which of our coming and our going heeds, As ocean's self should heed a pebble cast."

Just so does the ocean of manpower receive the brightly tossed special pebble, utilizing for a time the ripples it causes and then absorbing them and it into the mighty surge of its eternal omnipotence.

The wrestling adage that: "There is a block for every hold" is equally applicable to war. Each new weapon demands a new block and is mightily potent until that block is devised. The development of these new weapons and their counters, these holds and blocks, is desirable in that they add to the repertoire of our attack and defense. They are dangerous when they cause us to ponder our whole faith on their efficacy. It is only in the writings of the romantic novelists that we find the hero invincible due to his knowledge of some diabolically clever lunge. In the duel and in the fencing room victory comes to the man of many good attacks and sound parries; the man who uses all the means at hand to the accomplishment of the end sought victory.

## MODERN CAVALRY

While Cavalry is usually classed as an auxiliary arm, it is more, in that it is capable of separate and wholly independent action.

Since the memory of man runneth not to the time when we entered a war with the prewar organization, it were a waste of time to investigate the current one beyond the point of saying that cavalry units run the full gamut in size from squads to army corps.

There are, however, certain increases and additions which deserve remark. The proportion of automatic weapons in our Cavalry is now much larger than in any other Cavalry of the world. This will have most striking results. Formerly we were weak in firepower and that which we attained was paid for at the price of immobilizing a large number of our men. Now the use of automatic weapons permits us to develop a formidable fire effect while at the same time leaving the great majority of our men mobile, thus giving us a double threat in the offensive and making us more tenacious on the defense.

We have already incorporated the wheel type armored car into our cavalry divisions and at this writing are carrying the process one step further by adopting a combined wheel and track machine for use with cavalry corps and, perhaps, divisions. This latter weapon is ideally suited to play the part of an offensive reserve and may on occasion be used for reconnaissance.

Finally, the partial motorization of cavalry supply trains will have a far reaching beneficial effect on our mobility. This statement is such an apparent contradiction of our former mud-infested outlook that it requires explanation.

Throughout history, wagon and pack transportation have never been able to keep up to the maximum useful speed of Cavalry, with the result that Cavalry has either hung back waiting on its wagons or else has gone on without them and gained a precarious livelihood off the country. Now when the conditions of roads and weather permits the use of trucks (seldom as this may be) our supplies can keep pace with us; for the rest of the time we are no worse off than we were before. The net result is clear velvet.

## CAVALRY OPERATIONS AND MOTORIZED FIGHTING VEHICLES

Space will be saved and clarity increased if we examine the several functions of Cavalry in the sequence in which they will occur during our next attempt to insure the peace of the world by combat, and show the part we believe armored fighting vehicles will take in conjunction with Cavalry.

**DISTANT RECONNAISSANCE:** The debut of effective airplanes gave widespread vogue to the notion that in this field they would more or less wholly replace Cavalry. However, riper experience of the effects of storms, fogs, darkness, forests, and enemy planes has so modified this view that now the airplane is considered as the ally, not the supplanter, of Cavalry for strategic reconnaissance.

For example, the airplane can indubitably spot large enemy concentrations at a distance and with a speed absolutely unattainable by Cavalry. On the other hand, information it gains is only positive. It can say there are enemy troops at Blank, but it cannot definitely say there are NO enemy troops at some other place. Airplanes cannot obtain identifications nor can they maintain constant surveillance. For all these purposes Cavalry is necessary. But the early information secured by the planes will materially assist the Cavalry in giving them a general direction in which to look and by aiding them constantly during the search.

Thus helped, the Cavalry's mission of gaining and maintaining contact with the enemy and locating and reporting the movement and position of his main bodies will be greatly facilitated.

When the number and condition of the roads permit the use of the wheeled type armored car, these vehicles will add strategic feelers to the Cavalry. Their role is intermediate between the plane and the horse. Their speed permits them to gain contact sooner; they can frequently secure negative as well as positive information and they can occasionally get identifications. On the other hand, their inability to leave the road or to operate at night makes them useless for TACTICAL RECONNAISSANCE and renders the probability of their penetrating the enemy screen to locate his main bodies small, indeed. Another defect which is often overlooked in considering them is their inability to live off the country and the fact that with them it is all or nothing when a puncture or a breakdown bags the whole show. A lame horse loses one trooper.

In our opinion the organization of armored cars into tactical units is useless save for supply. They will act as naval cruisers, possibly in pairs, and will have to move and fight on their own. If they encounter enemy cars they should use Nelsonian tactics and close, shooting rapidly. Ambushes and barricades will be costly to them. As messengers in enemy country, they will attain fine results.

When either the condition of the roads or lack of sufficient machines precludes their independent use, it will still be well to attach a few of them to cavalry units to be used as messengers, connecting patrols or for special limited missions close in.

Since the space separating the opposing armies is usually measurable in hundreds of miles and since, regrettably, the race of Deer Slayers and Kit Carsons is practically extinct, it is futile to send individuals on reconnaissance, despite the Biblical precedent established by Noah's dove. Recourse is therefore had to so called reconnoitering detachments. There is nothing tricky or abstract about the name; it is a unit of Cavalry, sometimes a troop but usually a squadron, temporarily charged with reconnoitering duties.

Generally, the firepower of the unit will be augmented by the attachment of machine guns and, as just pointed out, armored cars may well be added.

The essential idea governing the use of these reconnoitering detachments is to furnish a control force and mobile base for patrols. Perhaps if we picture an ambulatory beehive moving down the road with small groups of bees going in and out searching for the honey of information, we will form an accurate notion of such a detachment. Like the hive, too, it can be stirred into vindictive activity against any interference with the endeavors of it's members.

In determining the number of such detachments we are bound to consider three factors, namely, the amount of Cavalry we have available, the character of the enemy, and the number of roads. We will certainly be spreading it pretty thin if we figure a squadron for every twenty miles of front, and this distance would often be impossible were it not for the presence of the armored cars which can investigate distant and important localities and further act as communicating patrols to collect and rapidly transmit important information.

Suppose now that we have a reconnoitering squadron with a twenty mile wide ribbon of country leading towards the enemy to examine, how does it act?

In the first place, the squadron itself and all it's patrols move by road. The squadron on the best or most centrally located and the patrols on the other ones leading towards the enemy. The squadron

is preceded by five to ten miles by a patrol and its immediate safety is secured by the use of the normal advance guard.

Eventually, the patrols meet enemy bodies of sufficient strength to force them to leave the road, when they proceed to find out the size and flank of this force.

It is after the mounted patrol is forced off the road that its superiority to its motorized brethren becomes especially marked. Small groups of horsemen are relatively inconspicuous; any bush, house, or fold of the ground will hide them. They can see without being seen. More important still, they can use their own ears as well as profit by the keener hearing of their horses.

Finally, they can keep on going by day and night, a capacity which does not adhere to the motor conveyed scout. If he descends from his machine to investigate on foot, he is not only slow, but must always retrace his steps or be lost. By night he is immobile.

Eventually a number of such patrol encounters will induce the conclusion that there is a considerable body of enemy in a given locality. Good patrolling would definitely indicate the position and strength of the enemy.

If the reconnoitering squadron commander abides strictly by his mission of hunting the hostile main body he will try to avoid this enemy; but, since it is probable that the opposing force is part of a screen whose duty it is to prevent the further advance of our detachment, a fight will ensue. Our personal feeling is that even if the enemy were not trying to stop us, we would attack him. War is a question of killing, and the sooner it starts, the better. However, the method first described is orthodox.

In reading of the tactics appropriate to such a fight we are apt to find ourselves enmeshed in a web of strange words, such as the "Pivot of Maneuver," the "Mass of Maneuver," etc. If, instead of this, we describe the tactics appropriate by saying; "Grab the enemy by the nose and kick him in the pants," we sacrifice purity to precision, but we express the idea.

Cavalry tries to do just this. It grabs the hostile nose and tries to hold it by violent and noisy head-on attack, using its automatic weapons and some dismounted troopers; while with most of its force mounted, it moves rapidly to a place from which the pants attack can be made with vigor and by surprise. We have dismounted part of our force to hold the enemy and have sent the rest off mounted to gain a position in rear from which they may attack.

If the enemy learns what is going on in time to deploy an effective, unshaken firing line against the turning movement the attacker has the choice of either repeating the nose and pant attack by dismounting a portion of his own force to grab the new nose and again turning with the rest, or to risk the fire and charge home.

When the ground permits the use of armored cars there are two ways in which they may be employed in the above operation. First, to add to the firepower of the nose attack by joining in the fire fight from a defiladed position. Second, by facilitating the march of the pant group. Remembering our contention that roads will always be used, part of the march of this column will surely be by road; armored cars with the advance guard could clear out enemy patrols which otherwise might delay the march. When the horsemen leave the road, the cars should seek a position from which to aid their attack by fire; or, failing this, should try to get around to the road

by which the enemy advanced and moving on this either cut off his retreat or attack him in the rear. Whatever happens, they must be used. They are not intended to live forever.

**DEFILES:** Sometimes during the reconnaissance period the duty of seizing defiles of bridges with a view either to holding them for our Infantry or else of delaying the enemy at them will devolve on the Cavalry.

Rapidity of march is the first essential. And in such missions armored cars may be of vital assistance by aiding in the rapid brushing aside of small enemy detachments or hurrying on independently to seize the place itself and hold off minor enemy attempts until the arrival of the rest of the Cavalry.

In attacking a bridge an effort must be made to turn it, by finding a ford or by swimming. While this is going on the enemy at the bridge should have his nose held by a frontal fire attack. It is interesting to note that at the present time great difficulty has been encountered in teaching machines to swim. Providence has already instructed the horses.

In the case of a defile, turns will probably be impossible and a dismounted attack will have to be used.

In the natural course of events the next duty devolving on Cavalry would be:

**COUNTER-RECONNAISSANCE:** The ability of the airplane to execute strategic reconnaissance irrespective of the activities of ground troops has to a degree deprived counter reconnaissance of its strategic importance; still, as we have seen, the airplane does not secure sufficient details even to wholly fulfill this mission. Since these missing facts must be obtained by ground troops and since they alone are capable of tactical reconnaissance, the necessity for counter reconnaissance is still important.

The measures may be carried out either offensively or defensively.

**OFFENSIVE COUNTER-RECONNAISSANCE:** The technique employed differs but slightly from reconnaissance.

The size and density of the patrols is increased so as to insure the apprehension and destruction of hostile patrols. This of necessity causes the use of more reconnoitering detachments. The supporting brigades or regiments are moved up closer in order to be on hand to prevent the enemy breaking the line by destroying a detachment. Since wheeled armored cars can only operate on the roads and then only by day, they are of little use save as a means of determining the routes being used by the enemy.

While combined wheel and track cars can move off the roads, they are so hard to conceal that small enemy patrols can avoid them; at night they are useless.

Where both sides are aggressive a situation occurs latent with great possibilities of a cavalry battle. The best way to lift a veil is to destroy it.

In such fights in open country the track laying type of car will be very useful. It will be employed either for frontal attacks or for turning movements. A prerequisite for the success of either type of

action is efficient combat reconnaissance. Even the best caterpillar machine has definite limitations as to the ground over which it can operate; to be held up during by an obstacle under fire is fatal.

**DEFENSIVE COUNTER-RECONNAISSANCE:** This is in effect a form of outpost differing only in that its purpose is to guard the secrets, not the security, of the main bodies in rear. The reconnoitering detachments remain still in the guise of supports while the patrols take on the character of out-guards. The larger units in rear act as reserves to prevent ruptures of the line.

Natural obstacles are very suitable for the siting of such lines. The chances of an active enemy bringing on a cavalry battle against this type of screen is excellent.

Armored cars and portee Infantry are well suited to assist. The Infantry has time to examine and repair the roads they may have to use. Their movement and detrucking are covered by the Cavalry so that they have great liberty of action.

Wheeled armored cars will be utilized as communicating patrols and as observation posts by day. They can effectively cover long stretches of river also only during daylight.

The track type will be used in the cavalry battles which occur.

**CONVOYS:** The question of providing security for portee infantry columns in war of movement has been very lightly considered.

In very open country this duty can unquestionably be effected by the use of armored cars of the two types.

In closed country, since machines are incapable of **TACTICAL** reconnaissance, protection must be afforded by Cavalry. This will certainly reduce the rate of the columns and require them to move by bounds, but nevertheless they will still be able, provided roads are passable, to move faster than marching Infantry. The more portee Infantry is used in open warfare, the more will Cavalry be necessary to cover its march and its detrucking.

**GENERAL BATTLE:** Eventually the main forces of the two armies will get so close that the Cavalry will be squeezed out. Before this happens the army commander must decide on which flank he wants the bulk of his Cavalry; this must be a clear cut decision and no straddle; a fifty-fifty split is fatal to its effective employment.

Being collected it must be used. The practice of letting it participate in the guise of a spectator is as absurd as it is usual.

Before considering the employment of Cavalry in general battle, it is well to pause a moment and enumerate the characteristics which make Cavalry particularly effective.

These characteristics are: Its variable speed and individual road and cross country mobility in any type of country and capacity of its units to fight either on foot or mounted. The high proportion of mobile automatic weapons in our Cavalry permits it to develop powerful fire effect while at the same time maintaining a large proportion of its men mobile for flank or rear attacks.



Again, it's facility of movement permits it to apply it's force at widely separated localities within a very brief space of time.

Since it can move across country in invulnerable formations, it can deliver it's men at the desired place in an unfatigued condition.

It always supplies it's own security.

If on reaching the vicinity of the enemy it seems expedient to execute further turning or enveloping movements, it can do so promptly and rapidly without being deterred by considerations of fatigue or waste of time.

In the event of successful action the immediate presence of the horse enables it to pursue vigorously and as speed.

If the fight is unsuccessful the same conditions of mobility enable it to withdraw rapidly straight to the rear.

Like Infantry, it can operate tactically by night or day.

**OFFENSIVE BATTLE:** In such battles Cavalry should be used in wide turning movements against the enemy flank or preferably his rear. In these circumstances night attacks will be common. Fire fights will be the rule, but Cavalry must be prepared to charge boldly though usually in small units. It seems hardly necessary to say that in night charges success will depend on careful reconnoissance or previous knowledge of the ground.

The fact that Cavalry can live off the country is of material advantage, since in such operations supplies other than those of the enemy will be lacking.

The presence of track laying armored cars will be a material help. In the open they can precede Cavalry or move abreast of it and add to it's fire and shock powers. In closed country they will follow and, taking advantage of the information secured by the horsemen, can clear up resistances or act as pivots about which the Cavalry can maneuver.

Wheeled type armored cars will be of little use.

**DEFENSIVE BATTLE:** Unless the enemy is very superior in Cavalry we should still employ our own as above outlined in incessant attacks on him.

When the hostile Cavalry is superior we will use ours in preventing him from carrying out against us the operations we have above outlined. We will also use it for delaying enemy enveloping infantry assaults by attacking their outer flanks.

The rapidity of it's marches and it's ability to worm it's way across country without being impeded by traffic congestion, makes Cavalry particularly efficient in filling gaps in the line. A good illustration is afforded by the action of the first and second German Cavalry Corps on the Marne in 1914.

Track laying armored cars will be employed in a manner similar to that described for the offensive. The question of their gas supply will be less difficult.

**EXPLOITING A BREAK THROUGH:** This situation applies chiefly to war of position because in open warfare it will generally be preferable to use Cavalry on the flank.

The creation of a breach of sufficient width to justify a breakthrough is not a function of the Cavalry, but a responsibility of the other arms. The fact that in the World War on the Allied side no such breaches occurred until the last weeks is no criticism of the Cavalry. Lack of Cavalry made the German breakthrough of March 1918 abortive.

Due to its cross country mobility Cavalry can be more readily moved up preparatory to an exploitation than can any other arm because in rear of an attack of sufficient magnitude to create a penetration, the congestion of the roads due to traffic and shelling will be appalling.

The fluid mobility, firepower, and ability to live off the country and maintain constant pressure both day and night inherent in Cavalry render it priceless for exploitation. Tactically it may either be employed to maintain contact with the enemy and prevent his reforming or else it may be directed to operate against the rear of the intact portion of his line and widen the breach.

Armored cars of the track laying type, fast tanks, and airplanes will be most useful in getting the Cavalry over the difficult task of making the initial passage of the breach, where without their aid it would suffer losses and delays. Indeed, for the first step tanks and track laying armored cars are superior to Cavalry, but almost at once their value dwindles due to the absence of supplies, the terribly exhausting nature of the work on their crews, and the fact that they are more subject to delays incident to the ground and to the effects of artillery fire. Finally, they cannot operate at night, or hold captured ground.

The airplane will be useful throughout daylight and to a degree at night, but can neither take prisoners, capture material, nor hold ground.

**PURSUIT:** When during the course of a general battle it becomes apparent that the enemy is preparing to withdraw, the Cavalry must be warned so as to have time to assemble to the front and flank preparatory to pursuit.

It is a well known fact evinced both by childhood experience and the history of countless battles, that a man running away can always outdistance a pursuer running after him. For this reason, Cavalry is the ideal means for pursuit; first, to catch up with the enemy and then to delay his march until the arrival of the Infantry.

In gaining a position on the enemy line of retreat from which to delay him, Cavalry should start with a sufficiently wide turning movement to avoid his Cavalry detachments. If it should encounter such forces it should not fight but rather use its speed to get around.

Having gained a position on the hostile flank and rear, Cavalry should at once start attacking the enemy and breaking up his rest. Its operations must be ceaseless day and night. The method of action will depend on circumstances. At first it will have to be by fire. Bursts of surprise fire will be particularly effective. When the enemy becomes demoralized, free use should be made of the charge.

When defiles or bridges exist on the line of retreat the Cavalry should try to reach them first. However, it should not plug up all holes of retreat too soon. By pretending to be on the point of closing the last bolt hole, the enemy is induced to demand ever increasing marches of his men with the result that soon fatigue and demoralization will claim more casualties than bullets. After a satisfactory reduction is produced, the rest may be rounded up.

Whatever supplies Cavalry obtains during pursuit must come from the enemy, none can be sent to them.

For pursuit both types of armored cars will be useful; the wheeled type to move far around the flank to raid or to precede the Cavalry in reconnaissance until contact is made; the track laying type to accompany the Cavalry in open country or to follow it in closed and to participate in combat. The possibility of getting some fuel up to them will be small but worth trying.

The fact that they cannot work at night is a heavy drawback.

There should be close liaison with airplanes who will not only attack the enemy, but also apprise the Cavalry of his routes and, if possible, of the position of his delaying detachments.

In this, as in all other operations in future wars, our own airplanes must be counted on to afford a maximum protection to our march columns of ground troops of all sorts.

**COVERING WITHDRAWALS:** If the shoe is on the other foot and we are the beaten and retreating party, it is up to our Cavalry to cover us and to minimize the effects of hostile pursuit.

This they accomplish by fighting off hostile Cavalry, by attacking the flanks of pursuing Infantry, and by protecting the withdrawal of our own Infantry covering detachments.

In case there are unprotected defiles or bridges on our line of march, the Cavalry must keep the enemy from occupying them.

Armored cars of the wheeled type will be used to make short delays on the roads. The smoke devices with which they are provided may facilitate their escape. These cars will be effective in making small demolitions. They will carry the explosive and cover its emplacement. Their efficiency will depend on the valor and initiative of their crews. Their casualties will be excessive.

The track laying armored cars will be especially valuable in covering the retirement of Cavalry. They will remain in position until the last mounted unit is well away and will then rejoin. If the enemy is using artillery they will have to occupy concealed defiladed positions and attack the leading elements of the pursuit as these reach the position just abandoned.

**FLANK GUARDS:** This task should be performed by the use of very aggressive delaying action.

The earliest possible contact must be gained with the enemy with a view to at once attacking him and causing him to deploy. Ambushes will be utilized. Since at first it is not a question of holding ground, but simply of slowing up the hostile march, positions parallel to the line of march may be utilized. Such positions should be selected on the flank in the direction of which the force being

covered is marching so as to prevent the Cavalry from getting cut off. Demolitions must be used to the full.

Where roads permit it, wheeled type armored cars should be pushed out early to locate and engage the enemy. Later, they cover the flanks.

Track laying armored cars should be used for surprise attacks and to cover the withdrawal of the mounted units.

**CAVALRY IN COMBAT AGAINST MECHANIZED FORCES:** In considering this phase of combat it is desirable first to call attention to certain limitations which will effect the employment of mechanized forces, because thus far the glamour of the unknown attached to them has caused us to gloss over or neglect their shortcomings.

In the first place, no mechanized force the size of a brigade, using any known type of vehicle, is any less tied to roads for marching and supply than is a brigade of other arms.

In order to force the passage of obstacles such as creeks, gulches, etc., it is necessary for them to establish a bridgehead. This fact alone will always demand the presence of a considerable number of portee Infantry, or as some writers call them, "Tank Marines."

The transport of this force necessitates the presence of numerous non-fighting vehicles, with a corresponding elongation of the column.

This elongation increases the very real difficulty of transmitting information and orders along the column. A fact which is bound to seriously delay both the speed of the march and the rate of the deployment. Most roads are not concrete boulevards and are more apt to be twelve than forty feet wide.

Kipling's famous lines about

"The everlasting waiting on the everlasting road, For the commissariat camel with his commissariat load" may tomorrow have to be revamped so as to contain some reference to this new problem.

Up to the present, no mechanically transported security groups have been able to insure effective TACTICAL reconnaissance at a speed commensurate to the capabilities of mechanized forces.

While this defect is serious for the fighting vehicles, it is far more disadvantageous in the case of the portee and fuel supply elements of the command.

Without gasoline, machines are junk. The question of maintaining an adequate and timely supply of this priceless liquid will absolutely determine the mobility of mechanized forces. The shoe will begin to pinch on the second day. It seems to us that the widespread maneuvers of independent mechanical forces. In our own experience it was far more fatal than enemy fire.

The question of effecting battle reconnaissance for mechanized forces is extremely important. It is well to remember that the speed these monsters attain over the intimately known terrain of the

maneuver areas will be materially reduced when they come to undertake independent operations in new country.

Except under circumstances so favorable as to be practically nonexistent, machines cannot fight at night.

Finally, the battle command of mechanized forces offers tremendous and as yet unsolved difficulties.

The preceding analysis is in no way intended to detract from the very real efficiency which mechanized units possess. In enumerating their difficulties we have but reverted to our "block and hold" thesis.

It is by a vigorous and courageous understanding and utilization of these "blocks" that Cavalry must devise means for combating machines. Only the unknown is feared.

In the first place, too much significance should not be attached to such expressions as "open country" and "closed country." In all open country there are many enclosed areas; and in closed country there are numerous open patches. Think, for example, of how few places there are in the world, except target ranges, where one can see every foot of ground from zero to a thousand yards.

In combating mechanized forces, Cavalry must begin with distant and wide reconnaissance. In this it should derive the maximum assistance from airplanes and armored cars. The units making this reconnaissance do not need to be very thick as armored forces are easily seen and heard.

When the force has been located, Cavalry should move towards it in deployed columns, but must avoid head-on collision in the open. Wherever cover exists, Cavalry should open fire with automatic weapons and cause itself to be attacked. It must, of course, avoid small isolated woods as in these it will be surrounded.

Extensive obstacles such as creeks, gullies, and wooded draws should be held in force. At such places mechanized forces can be stopped. If they know their business, however, they will not attack but go around. The stationary gun is vastly superior to the moving one.

The speed and mobility of Cavalry, enabling it as it does to readily occupy and evacuate successive positions, renders it better suited to delaying mechanized forces than is any other arm.

While this delaying action is in progress, the Cavalry units on the flanks will close in and get behind the armored force across its line of supply.

With the advent of darkness, Cavalry assumes the offensive.

Owing to their inability to fight at night in strange country, mechanized forces will close up at dark and go into a bivouac concealed from aerial attack. They are so weak in men that the outpost they establish will be very close in. Machines will be placed to sweep with fire all roads leading to the camp.

While it will be quite impossible for Cavalry to destroy such a bivouac, it can be very easily annoyed, harassed, and injured by an active Cavalry breaking its rest, shelling its machines, and

assaulting its outposts. In dry weather, woods must be fired. The road in rear of it will be cut and all bridges on it destroyed or damaged.

In order to get up supplies convoys of armored machines must be used. The supplies so convoyed will be inadequate unless so many machines are used as materially to reduce the fighting force.

Of course, the Cavalry will not get off scatheless. Sad to say, no effective means of fighting without killing and getting killed has yet been invented.

In consideration of the foregoing it is our firm belief that the independent employment of mechanized forces is so largely illusory that it will never be seriously employed. Certainly not after a few trials.

The true medium of these forces is in the form of offensive reserves to be used in the final stages of a general battle to strike the decisive blow.

**AIRPLANES:** Throughout this paper, stress has been laid on the advantages Cavalry will derive from the aid of friendly airplanes.

In considering the effects of air attacks on Cavalry, the following points are noteworthy:

Due to the variable speed of Cavalry and its ability to move via trails and across country with little heed to bridges, except at the larger rivers, it can split up its columns into relatively small march units and still be able to concentrate them at the desired point.

The mobility possessed by each individual of these little units enables them to disperse and reassemble rapidly in the event of air attack and so offer very poor targets.

The same characteristics permit Cavalry to disperse its bivouacs so that the effects of bombing attacks will be slight and highly localized. The days of nicely ordered Cavalry camps on the open sunny slopes of a hill are as defunct as the buffalo among whom they used to flourish.

The danger from air attacks will certainly force Cavalry to keep its led horses mobile and concealed.

The best block for enemy aviation is our own.

**SUPPLY:** The details of cavalry supply have been skimmed just as the supplies will be. It is hoped that enough has been said to indicate the exceptional difficulties to be expected.

Cavalry usually operates in small units. It never is, or better it never should be, near the principle lines of supply save those of the enemy. The proper use of Cavalry may be epitomized to read; "In movement there is strength." It would be as foolish to hamper the movements of Cavalry by the attachment of heavy trains as it would be to hitch a trailer to a racing car. Cavalry, to be useful in war, must be hungry Cavalry. It must eat where and how it can. DeBruck, one of Napoleon's officers, said that he had done eighteen campaigns in the Cavalry and had seen but one supply wagon, and that one upside down in a ditch.

Supply therefore will reduce itself to starving and foraging, interspersed with periods of plenty when some extemporized supply column is rushed through or when some future Mister Commissary Banks is captured.

Cavalry wounded who cannot ride are out of luck unless the country people are merciful. Their graves registers will be the buzzards. In the words of the old song; "If you want to have a good time, jine the Cavalry."

## MOUNTED SWORDSMANSHIP

By Lieutenant G.S. Patton, Jr.,

Instructor in Swordsmanship, M.S.S.

The Rasp, 1914

In order to be convinced that, despite all improvements, soldiers still look to personal, man to man combat as the deciding factor in battle, it is only necessary to remember that every branch of the world's military forces is equipped with a hand arm.

The cavalry has it's sword or lance, the infantry it's bayonet, and the artillery has in the sword, carbine, or pistol what is for it the arm of outrance.

Would the millions of the world's warriors burden themselves with these weapons did they not expect and long to use them? Hardly.

Nor is this persistent and instinctive clinging to the weapons of infighting remarkable when we consider the origin of arms and war.

In that dim unrecorded past, when man, on first rising from the beast, began to think, he noted that he who had the greater strength and sharpest teeth was successful in the pursuit of food and female over his fellows who, also relying on their unaided strength, sought to oppose him, his preeminence went unchallenged until someone of lesser strength but greater cunning, seized upon a branch of a tree or bone of a devoured animal and reinforcing his lesser strength with this club, slew the giant and in his turn, became chief. Thus in the struggle of some hairy half human men, arms first asserted their supremacy, brawn first went down the drain.

Man and the club was paramount. Perhaps some resisted him with stones but their missiles were not sure and when he closed, the club wielder won.

Then someone whose lesser strength prevented him from using a bludgeon of sufficient size to successfully combat with the "Club King," took a pole sharpened in the fire or tipped with flint and when "Club King" rushed upon him, ducked his blow, ran him through, and in his turn was king.

As time went on, the stick became a spear, the stone tip a dagger and as art increased, a longer dagger or stone sword.

Next, bronze replaced the stone. At first bronze weapons were castings and as a consequence, brittle, so lasted better for thrusting than striking and the point still was uppermost.

But, as the first workers in bronze began to gain the skill to hammer out their weapons, they lost through civilization the manhood to use them. Rougher men overcame them and took their arts, but being wild at heart, they thought to conquer more by strength than skill, so used the edge. And thus the age-long seesaw was begun.



Then bodily protection began to be a factor as to whether point or edge should rule. The easiest armor to devise was one composed of quilting or of skin. This, while guarding against a thrust, did not prevent bones being broken by a blow, provided that blow was delivered by arms of sufficient strength. This remained true when scale and later chain armor was devised and had a lot to do with determining the style of attack during this period.

Shortly after the appearance of armor, the factor of discipline began to make itself felt. Men found that by standing close together and using the points of their spears they could get a greater number of effectives on a given space of front than they could by swinging clubs or cutting with swords. For in the latter case, only the front rank could actually combat and they not closely allied, or they could not swing, while the closer the men with the points stood together the better, and the number of ranks engaged was only limited by the length of their spears.

Discipline thus joined forces with the point and whether exemplified in the spears of the Phalanx of Greece, or in the points of the short swords of the Legions of Rome, the men who stood together and trusted to discipline and the point always thrust back their brave, powerful, and savage foes who uniting brute strength to the edge, lost.

In fact it may be said that whenever civilization has triumphed, its advances have been gained by cohesion and mutual reliance, sticking together and using the point over reckless bravery without cohesion, where each fought for himself, cutting gallantly a road to oblivion. The point conquered for the Greeks, the Romans, and the Normans at the Battle of Hastings. The lances and long swords of the English won against the claymores of the Scots and with the invention of gunpowder, all over the world in India, Africa, and the Philippines, the point and its winged brother, the bullet, have ever won.

But let us consider the most important factor in the use of weapons, the horse.

From the earliest recorded history, some races of men have ridden to war on horseback or driven to it in chariots. At first, however, the horse was only a conveyance. The warrior rode him to battle and dismounted to fight. There is a record of this as early as 1600 B.C.

In 1439, B.C., the chariot was invented and the warrior rode in it to battle, but, even yet, he dismounted to fight while the driver turned the horses to the rear, so that if his master was hard pressed or wounded, he could find safety in his chariot. Finally, chariots were actually driven into battle and warriors fought from them with bow or javelin. Scythe chariots were invented by Cyrus the Great in 559 B.C.

At last, some hard pressed warrior who, perhaps had broken his axle, unharnessed his horse and fought from his back. The first record of this is 980 B.C., and we are led to believe that it was a chariot horse from the fact that they are always depicted with the collar on and the illustrators do not drop it until a hundred years later.

In 885, B.C., cavalry was regularly used by the Assyrians who had their troopers ride in pairs, one armed with a bow while the other, who was unarmed, directed the horse of his companion. Later, this assistant was dispensed with and the archer fired while his horse galloped with the reins on the neck. Cavalry armed with javelins and mail shirts appears around 705 B.C. Some of these carried a short sword as well. In 595 B.C., Cyrus the Great, organized his cavalry in groups of a hundred formed eight deep and armed with a lance both for throwing or charging; both men and horses

wore breast plates. In 480 B.C., Persian Cavalry under a general Masestivs had an authentic shock action and melee.

Alexander the Great used cavalry to a great extent. He had both heavy and light; also a sort called Dimachi, invented for both shock action mounted, and for work on foot; they were in fact, the first dragoons of history.

As long as scale or chain armor was stout enough to resist the shock of the lance mounted, it was quite clear that in the melee, the thrust of the sword would be equally non-effective unless it found the face or some other unguarded spot. The Heaume (or closed helmet) was not invented until about 1200, A.D. On the other hand, a cut, though it might not go through, was still capable of giving a crippling bruise or of breaking a bone or cutting through a casque. Moreover, these blows could be given in the most favorable position with the horse pulled up, for the mailed rider had little to fear from anything but a direct attack, the blow or thrust of some passing knight not being likely to take effect; while had he been unarmored he could not afford to pull up and expose himself to such risk.

About 1250 A.D., plate armor began to come in. At first it was very inadequate and was frequently worn over a suit of chain.

At the battle of Tagliacozze in Italy, on August 23, 1258, A.D., between the French under Charles of Anjou and the German Conradin, the Germans wore plate and the French in chain armor were getting the worst of it, as their cuts had no effect on the new armor. At last a French knight named Alard de St. Valery, noticed that when the Germans raised their arms to strike they left an opening. He called, "Give point!, Give point!," and the Germans were soon all killed or taken, as being unused to the great weight of plate, they were very weary.

From this time on, the point came back and to such an extent that in 1500 A.D., the estoc was the most deadly sword and had no edge at all, being simply a long straight steel skewer, very stiff and sharply pointed. In a strong hand it could be driven right through a piece of plate. Bayard was very fond of this weapon.

Shortly after this, armor began to be discarded because of the increased power of firearms. Until about 1650 A.D., the cavalry of Cromwell wore only the cuirass and a helmet without a closed visor, though some of the officers still used armor on their arms and thighs and a very few used the closed visor. Cromwell's men used the point almost exclusively.

Mobility now continued to increase in importance. Part of the cavalry dropped armor completely and in consequence, were called light cavalry. In the majority of cases it is strange to see that these light troops were given a curved sword called a saber instead of the straight one to which they were accustomed. The troops of Charles XII, of Sweden, and those of Peter the Great, were an exception to this rule.

The cause for the change to the curved sword is rather curious. For centuries on the eastern border of Europe and in Spain, heavy European cavalry had been opposed to light oriental horsemen wearing little or no defensive armor such as was known in Europe.

It then seemed only natural to the European to arm his new cavalry with a weapon similar to that used by the light oriental. But the copy was defective in at least two respects. The oriental weapon

had been designed to cut through the padded body protection formerly largely used in the east. This was accomplished by giving the scimitar such a curve that its cut had a very much drawn effect. The saber was not given sufficient curvature to accomplish this, though the early forms were less faulty than those of later date.

The orient never has used the cohesive shock of lines of horsemen. He gallops at his foe in loose unaligned masses and from his first appearance in history, is spoken of as circling. He used a horizontal cut to increase the drawing effect of his weapon and takes his time to kill his man, continually circling him until he sees an opening and trusting to the agility of his horse for his parries. His sword has no guard to speak of.

This form of attack was naturally inadmissible in Europe where it was necessary to get rid of the enemy quickly and to count the effect of fire. So the European light cavalry, armed with a bastard scimitar, was required to charge in dense line and attempt to use shock. Little wonder that they were unable to stand against the straight swords of dragoons led by Papenheim, Charles XII, or the generals of Peter the Great. Nor is it strange that about this time there was a strong movement towards the use of fire action mounted. There were many cases where the three ranks fired their muskets, then charged at the trot, pistols in hand, fired these just before closing and then fought with the saber. It is but fair to say that these tactics were also used on occasion by dragoons armed with straight swords, to the great disgrace of the cavalry service.

Turenne was the first to combat this tendency and forbid the use of firearms in the charge. Under the great Conde, cavalry regained its prestige and ability to charge with sword or saber in hand.

There were two very curious and diametrically opposite examples of the reversion to the cutting weapon in France about this time.

During the reign of Louis XV, the French court at least was in a state of great effeminacy. More attention was paid to beauty in man than for his physical or moral qualities. Costume, manners, and morals combined to reduce his efficiency as a fighting machine. Yet, many of these un-masculine men whose sensual qualities were the only ones still developed, cherished a strange desire to appear fierce and to this end, carried huge sabers of absolutely no balance, fitted with grips so short and small as to belie the pretensions of their owners at first glance.

The other reversion was during the revolution when the peasants and men of the lower classes, on gaining prominence, were anxious to wear that badge of the higher order, the sword. Here again, the undisciplined instinct of brave but ignorant brutes asserted itself and we see huge sabers of ridiculous width adorning the bloody actors in the crimson reign of the misnamed Liberty.

The Egyptian expedition under Napoleon gave fresh impetus to the saber. Many real scimitars were carried back to France at its close. The famous sword of Marengo carried by Napoleon was of this type. Murat also carried one, probably because it gave increased possibilities for being decorated with jewels.

The French dragoons and Cuirassiers, however, always stuck to the straight sword and the point and in Spain did such deadly work against the English cavalry who used the edge, that the English said, "The French did not fight fair."

In the foregoing, I have attempted to show very rapidly and roughly the various phases of the sword and its use. I have taken a very general view and it must not be thought that the changes instanced took place precisely at the same time in all parts of the world.

They did not. Local conditions must be remembered. A thing might happen in one place hundreds of years before a similar thing occurred in another place. Yet, viewed in a broad sense, the changes cited have occurred in about the sequence named. To sum up, we may repeat what we have stated by saying, "Wherever man has relied on brute force and courage unaided by discipline or cohesive action to win, he has used cutting or striking weapons, if he has closed at all."

Wherever science or discipline have prevailed, he has used cohesive action, team work, and the point. As savagery has succumbed to civilization, so has the edge given way to the point.

The Cavalry Sword Model 1913, is an ideal thrusting weapon and at the same time, one which can give a cutting blow at least one third harder than our former saber, while the sharpened back edge makes it much easier to withdraw from a body than would be the case if it were single edged.

With this sword the use of the point is taught exclusively for the following reasons:

Charging in close formation with the edge, there is no correlation between the onrush of the horse and cut of the sword. A front cut is the only one possible at the moment of contact, because of the other men to the right and left; speed materially reduces both the force and accuracy of this cut.

In the charge with the point, all the energy of the horse is conserved and he becomes a steel pointed missile.

In charging with the edge, much more of the person must be exposed in order to cut.

When using the point, the almost prone position of the trooper reduces the target and facilitates the speed of the horse.

With the edge, the whole body is exposed to the attack of the point while in using the point the head is protected from a cut by the guard of the sword so that only the shoulder and back offer a target. Moreover, if he is simply cutting, he will have about a foot of point in him before he can land his blow. If, at the last moment, he sees this and attempts to parry, he is perfectly passive. If he misses his parry, he is dead; if his parry is successful, he saves his skin, but has absolutely failed in his military mission of harming his adversary; for when two horses pass each other at a gallop it is impossible to parry and then cut to the rear; the horses will be far out of reach. On the contrary, the man using the point can still parry a cut while keeping his point in line for the body of his adversary. A thrust may be parried in the same way as a cut, still keeping the point in line, though here it is a question of strength and skill as to which of the two combatants will be successful.

Of the foregoing advantages of the point, the fact of increased reach is paramount. The point will outreach and outkill the edge in a charge; hence if we meet foes using the edge against our point, we have them. If our enemy also uses the point, we are simply fighting fire with fire and our superior swords and greater physical strength tips the scale a little our way; whereas, in such a case, had we continued to use the edge, we would have been lost.

Against a lance, the charge with the point is superior to the charge with the edge. In the first place, the lance point can be deflected at a greater distance from the body; thus giving the swordsman the longest possible path in which to get the necessary deflection, while the sword at the same time slips along the shaft of the lance with the point in line for the lancer's body who thus not only has his attack parried, but also his life menaced. Should the trooper on the contrary, sit up to use the edge, he must make his parry when the lance is not over two feet away from him, so that the path the point has to go, while being deflected, is reduced between six and seven feet, while the size of the deflection is the same as before and at the same time the attention of the lancer is not disturbed by the threat of the blow.

In the second place, when using the point against a lancer, the target offered by the swordsman is very small and low, while, when using the edge, the entire front of the swordsman is visible as a target. The significance of this is brought home when we recall the historical fact noted in many foreign regulations, that, at the moment of contact, lancers invariably point high.

Another circumstance which has been frequently mentioned by opponents of the sword is the fact that, in many cases where a charge is made, one side breaks before weapons are actually crossed. Among the many contributory causes to this premature departure of one set of opponents is the formidable and business like appearance of the other. I believe that it will take but one experience to convince an observer that a charge with the point, where all the energy of the onrushing horses seems concentrated in that glittering line of leveled steel, is more menacing than a similar charge where the combatants sit erect and idly wag their swords at each other.

Against infantry, the point is the only thing. The bayonet has a long reach and against it the cut is of little use.

Among wagons or artillery, the point alone can reach opponents behind wheels or shields.

In the melee, did circumstances permit of individual uninterrupted combat, the edge would be nearly as useful as the point, except that its wounds are much less crippling. But, two important factors militate against this species of combat. When the melee commences, the enemies line has been broken and he must at once be compelled to take up and continue a retrograde movement. He must be compelled to feel that he is on the defensive; the spirit of offense in the attackers must be dominant. This precludes pulling up, hammering, tactics. The troopers must continue at the gallop, riding at one enemy, killing him and on to the next, or if they fail to get their first man, they must not pull up, but leave him to a comrade and with unabated energy, ride down another opponent further on.

Again, individual combat where the opponents pulled up and fought it out hammer and tongs was all right when both wore defensive armor and were thus immune to any passing attack of some third party. But when an unarmored man pulls up, he makes himself a fine target for some passing adversary while, had he continued to move to the front at speed, the danger would have been much reduced.

Now in answer to some very proper and probable questions. Is it possible for the soldier in battle to always take up the extremely extended positions described in the regulations? No, not any more than it will always be possible to always get the proper sight setting for the rifle. The positions described are the best and the more rigidly and accurately they are enforced at drill, the more approximately will they be assumed in battle.

Will the edge ever be used? It will. Man is not very far removed from his cave ancestor. And as battle was a primal pastime, so modern man engaged in it more readily retrogrades to his hairy progenitor. It is for this reason together with the added facility in withdrawing it, that the sword was made sharp. We do not teach it any more than we do biting in a fist fight. At the last extremity, both are useful and will be used. The longer we can defer, by practice, that state of hysteria in which either will be used, the more deadly we make our swordsman or boxer.

Will the point always be successful? No, but in all circumstances it gives the largest chance of success.

In practicing the use of the point as prescribed it must always be remembered that it is for the use of the many in combats of opposing masses. It is in no way fencing, but the use of the sword is to quickly accomplish a tactical object; the quick and complete defeat of the enemy. The days when heroes fought one another while the armies watched, have passed. The use of the sword as now taught does not contemplate the training of such prodigies. Its object is to teach, as quickly as possible, a large number of men the most efficient way of handling their weapon in a combat that will last for minutes and be famous for centuries.

ARMY WAR COLLEGE

COURSE AT THE ARMY WAR COLLEGE, 1931 – 32

MEMORANDUM FOR THE ASSISTANT COMMANDANT  
THE ARMY WAR COLLEGE

SUBJECT;

THE PROBABLE CHARACTERISTICS OF THE NEXT WAR AND THE  
ORGANIZATION, TACTICS, AND EQUIPMENT NECESSARY TO MEET THEM.

Prepared by:

G. S. Patton, Jr.,  
Major, Cavalry.

February 29, 1932.

I.

INTRODUCTION

“All experience hath shown, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed.”

In these flowing words the brilliant author of the “Declaration of Independence” gave expression to the fact that the human mind prefers to remember rather than to think; to endure rather than to adventure.

Due to this habit we tend to have an excessive admiration for the past, and frequently carry our veneration to the point of believing that it also depicts the future.

The widespread opinion that the World War, waged as it was, in complete accord with the principle of “The Nation in Arms,” is a new development and the sealed pattern for future wars, is a case in point. As a matter of fact, the principle of “The Nation in Arms,” is older than history.

During the forty-four hundred years which separate the Syrian invasion of Egypt from the German invasion of France, there have been countless wars waged on the mass system; and a practically equal number conducted, on the diametrically opposed principle, inherent in the use of professional armies.

Now, while there is a strong school of military thought which holds that all historical study prior to 1870 is futile, the apparently inexorable recurrence of the cycles of history is so impressive as to merit investigation. Without perspective, a painting is valueless; so it is with things military.

Unquestionably, it is foolish to copy ancient tactics, but we should familiarize ourselves with the causes which impelled their adoption, because in the four thousand odd years of recorded history man has changed but little. Save for appearances, the hoplite and the rifleman are one, and the emotions and consequent reactions which affected one affect the other.

This being so, it behooves us to pause for a moment and classify old wars according to the means used in their waging.

## II.

### TYPES OF ARMIES USED IN FORMER WARS

#### **General:**

In order to simplify this investigation, nomenclature has been standardized as follows:

Armies composed of men maintained, equipped, and trained over a period of years, for the sole purpose of war, are called "PROFESSIONALS."

Armies composed of men, however maintained, equipped, and trained, who make war a secondary consideration, are called "MASS ARMIES."

In applying these general terms it must be remembered that they are relative and should be interpreted in consonance with the cultural period in which the forces operated.

Clearly, the amount of time, training, and money necessary to produce an Egyptian Bowman of 1500 B.C., a Roman Legionary of 45 B.C., a French Grenadier of 1796, or a British Regular of 1914, varied in an ascending scale. Yet, they are one in that a group of any of them was superior to an equally numerous group of contemporary amateurs.

The basic difference between professional and mass armies is the difference between quality and quantity; these attributes cannot be combined.

#### **Old wars classified as to types of army used:**

**2500 B.C. Mass Army:** One of the earliest wars of which there is authentic record occurred between Egypt and Syria during the Sixth Dynasty. A force of unknown character from Syria attacked Egypt. To meet this, the Egyptians raised a levee in mass, calling on each province "Nome" to furnish its quota. (ERMAN).

**Lesson.** A short campaign of home defense can be conducted with a mass army. At this period tools and weapons were simple and often identical.

**2000 B.C. Professional Army:** Under the Middle Empire, Egypt sought to maintain peace by isolation. To attain this end, fortification was invented and highly perfected. Two great forts, one at Assuan and the other at Pelusium, were built and manned by professional soldiers. (BREASTAD).



**Lesson.** Complicated equipment demanded professionals.

**1500 B.C. Mass Army:** At this time Assyria came to the forefront. All males of military age were liable to serve in the army. (SPAULDING).

**Lesson.** Wars were local; weapons simple.

**1400 B.C. Professional Army:** Thothmes III invaded Syria with an army of 15,000 men. This force marched from the present site of the Suez Canal to Mount Carmel, 250 miles in twenty-two days. From this fact and from the account of the battle fought at Armageddon, it is believed that the force was composed of professionals. (PETRIE).

**Lesson.** Distant wars and hard campaigning need quality rather than quantity.

**1000 B.C. Mass Army:** At this time the Greek States had wholly mass armies, all males being required to serve. The chiefs, and some of the lesser chiefs, being better armed and more practiced in war, were much more susceptible of being classed as "Professionals."

**Lesson.** Good weapons were costly and, hence, limited to the small professional class.

**722 B.C. Professional Army:** As we have seen, Assyria started with a mass army. Under Sargon II, her army consisted of 50,000 professionals. In peacetime this force was used to garrison provinces and protect the border. For wars it was augmented by an additional mass army of 150,000 men. (BREASTED).

**Lesson.** Distant operations need professionals.

**650 B.C. Professional Army:** Greek mercenaries were used in Egypt. (HERODOTUS).

**Lesson.** The Egyptians had money, but had no military ability; so they hired it.

**600 B.C. Mass Army:** By this time all the Greek States had a well defined method of universal service, citizens and non-citizens being subject to call.

NOTE. Non-citizens were not allowed heavy armor. (WESTERMANN).

**Lesson.** Wars were local and of short duration. The wealthy Greek citizens owned their equipment.

**546 B.C. Professional Army:** Under Cyrus and Cambyses, the Persian Army was professional. In very large wars, either of conquest or of defense, it's numbers were greatly augmented by local militia. (HERODOTUS).

**Lesson.** Distant operations and continuous wars demand professionals.

**460 B.C. Professional Army:** Due to constant wars, all the Greek States began to employ mercenaries. (SPAULDING).

**Lesson.** Civilians could not attend to business and at the same time remain constantly in the army. At this time arms and equipment became the property of the State. In order to keep the mercenaries from wasting them, the rules for discipline became much more rigid.

**480 B.C. Professional and Mass Armies:** At Thermopylae the Greek Army of 7,000 consisted of a trained national levee. However, the Spartan contingent of less than a thousand probably should be called “professional,” due to the fact that their whole useful military life was spent in the practice of arms. In the Persian Army of 100,000 the Guard Corps of 10,000, called the “Immortals” because they were always kept up to strength, were the only professionals. (CRESSY).

**370 B.C. Professional Army:** Philip of Macedon hired Greek mercenaries, not only to form part of his army but also to act as models for the rest which was composed of his subjects. Alexander the Great used this army, which was purely professional. With it he conquered the known world and in every battle defeated forces composed of mass armies which greatly outnumbered him. (HERODOTUS).

**Lesson.** For wars of conquest and distant campaigns professional armies are necessary.

**280 B.C. Professional and Mass Armies:** The Romans, with a good mass army, were defeated by Pyrrhus with a professional army. (SPAUDING).

**Lesson.** Quality is superior to quantity.

**218 B.C. Professional and Mass Armies:** Hannibal, with a mercenary army composed of hired men from many nations, repeatedly beat Roman mass armies largely superior to him in numbers. After Cannae (216 B.C. Mass Army), Scipio organized a new mass army. He placed so much emphasis on drill, organization, and equipment that, at Zama, he defeated Hannibal's professional army.

NOTE. The bad behavior of the Carthaginian Cavalry, which, in this case, was not professional, was in large measure responsible for the Carthaginian defeat. (POLYBIUS).

**Lesson.** Quality triumphed over quantity. For an overseas operation the semiprofessional army was needed. This Scipio produced. Due to the fact that it was homogeneous and national, it proved superior to the veteran mercenaries of Hannibal.

**105 B.C. Professional Army:** The Cimbric and Teutones, a perfect exemplification of the “Nation in Arms,” destroyed two Roman armies at Arausio (Orange) on the Rhone, 105 B.C. Marius then organized a new Roman Army, enlisted for sixteen years, and with it, in 102 B.C., annihilated the Teutones, near Aix. (OMAN).

**Lesson.** Emotional enthusiasm can, on occasion, defeat discipline. Since the Romans could not match the Teuton masses, and since their militia army could not stand the Teutones' ardor, it was necessary for them to find a new means. This they attained in the rigid discipline of the sixteen year enlistment. Another cause leading them to this was that the constant disbanding of armies at the end of each war failed to utilize the military training of the veterans.

NOTE. The system of numbered legions in the Roman armies started at this time. (OMAN).

**59 to 44 B.C. Professional and Mass Armies:** Caesar, utilizing the rapid marching and high battle mobility of his professional armies, defeated many mass armies, all of which invariably outnumbered him. In the civil wars his victories were much less striking, since here both sides used professionals. (CAESAR'S COMMENTARIES).

**Lesson.** Quality superior to quantity. Similarity of type of army or of tactics has always produced indecisive results.

**29 B.C. to 380 A.D. Professional Army:** The professional armies of Rome engaged in constant wars; during the whole of this period with vastly superior mass armies. They were almost invariably successful. However, in 251 A.D., the Goths defeated a Roman army, under Decius, at Trebonii. (OMAN).

**Lesson.** The Roman infantry armies were more mobile than most of their foes. The mounted Goths were more mobile than the Romans. In this latter case their mobility and enthusiasm more than made up for their lack of training.

**378 A.D. Professional and Mass Armies:** At the battle of Adrianople the last Roman army of the old type was utterly defeated by the Gothic mass army. From this date onward, for 1,000 years, Cavalry replaced Infantry as the dominant arm of battle. (OMAN).

**Lesson.** Again mobility and enthusiasm more than compensated for lack of training. Also, the Roman army was decadent.

**530 A.D. Professional Army:** By this time, the army of the Eastern Empire was wholly professional and consisted of mounted bowmen, using both fire and shock. Infantry elements, when needed for defensive operations or sieges, were raised on the mass system. With such a professional army, Belisarius defeated, at Daras, a mass Persian army double his number, and five years later with an army of 15,000 professionals conquered all of northern Africa. His opponents were mass armies. (OMAN).

**Lesson.** Superior mobility and discipline.

**EUROPE 500 to 800 A.D. Mass Armies:** In Europe during this period the art of war sunk to a very low ebb. All fights were local and were conducted by small levees. Some few of the Counts and their clients may claim professionalism due to their frequent practice in wars. (OMAN).

**756 to 850 A.D. Semi-Professional Army – CHARLEMAGNE:** “Charles the Great undertook offensive wars on a much larger scale than Pepin and Charles Martel. His armies went far afield and the regions he subdued were so broad, that the old Frankish levee in mass would have been far too slow and clumsy a weapon for him . to keep this mighty empire in obedience a more quickly moving force was required. Hence, Charles did his best to increase the number of his horse soldiers.” (OMAN).

To insure this result he proceeded as follows: In 779 he passed a law prohibiting the exportation of armor. In 803 he reduced the size of his army by arranging all citizens into groups according to wealth, varying from five to three men each, and requiring tha each group supply one man armed, mounted, and equipped. By the laws of 805 and 807 he still further stressed quality over quantity

by increasing the size of the groups and demanding battle equipment from the man sent. In 811 he promulgated a code of military punishments. In 813 he passed a law specifying not only the number and equipment of the soldiers, but also the kind of transportation, engineer stores, quartermaster, and ordnance property that should accompany each unit. To hold the ground that he had conquered he created a system of fortified camps connected by roads; they were called "Burgs." He garrisoned these burgs with military settlers, whom he provided with farms and wives. (CHARLEMAGNE; FIRST OF THE MODERNS. RUSSELL).

**Lesson.** This attempt at professionalism was highly successful.

**659 to 1071 A.D. Semi-Professional Army – EASTERN EMPIRE:** At the close of the Saracen war in 659, Constantine the Great organized his empire into Corps Areas, maps of which are still available. These Corps Areas were called "Themes." Each "Theme" was garrisoned by a corps of from eight to twelve thousand professionals. After deducting fortress troops and border guards each "Theme" could produce a field force of 6,000 mounted men. These forces were organized into the most minute detail; from the squad of ten men up, including the division. They had medical and supply units and arsenals. The Emperor Maurice, while still a general under Constantine, wrote a manual for general officers called "Strategicon." Not only are all forms of tactics covered in this manual, but different types of strategy applicable against the several enemies of the empire are specified in great detail.

NOTE. The chapter in this book with reference to the examination of prisoners of war is almost identical in words with the regulations used by us in France in 1917.

This manual was rewritten and brought up to date in 900 by Leo the Wise. Professional armies, organized in accordance with these regulations, maintained the integrity of the empire until 1071, at which date the army was badly beaten by a vastly superior mass army of Turks at Manzikert. After this defeat the "Theme" system fell into disuse and the army degenerated into a mass of mercenary bands, using their own tactics and equipment. (OMAN AND "THE STRATEGICON").

**Lesson.** There is nothing new.

**800 to 850 A.D. Mass and professional Armies – VIKINGS:** The Vikings, who initially were volunteer robbers, became professionals through experience. They stole horses and so gained such mobility as to be perfectly immune from the mass levees sent against them. About 900, feudalism began to evolve as an antidote to the Vikings. At first some leader would guarantee the protection of a part of the country provided that the inhabitants would pay him. With this money he hired, armed, and equipped a small body of professionals. Such forces defeated the Vikings because they not only marched but also fought on horseback, whereas the Vikings dismounted to fight and had no missile weapons. By 1000 A.D., these feudal lords had developed to such a state of military efficiency that they could defeat any number of peasants. Froissart states that sixteen of them defeated 2,000 peasants in one afternoon.

**Lesson.** Superior mobility of professionals.

**EUROPE 1097 to 1271 A.D. – Mass Armies:** During this period feudalism was triumphant. Most of the wars were local. The armies were of the mass type, stiffened by the professional followers of the feudal lords. The Crusaders were purely mass armies. However, the troops who

fought under Baldwin of Jerusalem were professionals who elected to stay. The striking success which Baldwin had with his tiny forces against vastly superior numbers of Saracens and Egyptians is eloquent of the value of professionals. (CHRONICLES OF THE CRUSADES).

In 1173, Henry II of England, then engaged in war with France, found that feudal levees were expensive and inefficient. He therefore desired to hire mercenaries. The feudal levee was obliged, by law, to serve forty days. Neither the peasants nor the noblemen were particularly anxious to cross the seas to France. Henry utilized this fact by calling out the National Levee and then exempting all men, who did not care to serve, at the rate of 2 shillings and 8 pence apiece. With this money, which was called “Soutage” (shield money), he hired his mercenaries. In addition to such mercenaries, every castle had a very small professional garrison.

NOTE. The great castle of Chateau Gaillard was defended for many months by a garrison of 300 English professionals against an army of 10,000 Frenchmen.

It is probable that the success gained by the English at the beginning of the Hundred Years War arose largely from the fact that since they were on an overseas expedition their troops were largely professionals, whereas the French being at home used mass armies. Towards the end both sides used professional armies and the results became very indecisive.

The English defeated the French at Crecy in 1346 A.D. They accomplished this by dismounting their knights and occupying a defensive position with them and with archers. The French charged into this and were shot down without being able to close. This put an end, for a time, to the dominance of Cavalry.

**Lesson.** Overseas operations demand professionals.

**1315 to 1515 A.D. Professional Army:** Swiss mercenary infantry, using halberds and pikes, became the main reliance of all armies. Their eventual disappearance was due to lack of discipline and to firearms.

**EASTERN EUROPE 1230 to 1350 A.D. Mobile Mass Army – Genghis Khan:** By the use of higher mobility the Mongols overran many weak nations. However, the strong Sultans of Egypt defeated them and they were finally turned back by the walled towns and forts along the Oder and Drave. Their constant experience in war probably justifies their being classed as “Semi-Professionals.” (LAMB).

**Lesson.** Mobility and enthusiasm are a powerful combination.

**1350 A.D. Professional Army:** The Turks started the use of Janissaries. This was a form of professional guard corps which never exceeded 10,000 men. (OMAN).

**1446 A.D. Professional Army:** First Standing Army. Charles VII of France raised twenty Compaignes d'Ordonnance. These were mounted units, each consisting of 200 armored lancers, 200 armored and mounted archers or crossbowmen, 200 unarmored archers and horseholders. To provide an infantry to back this force, Louis XI organized a so-called “Francais Archers.” This force was a paid, but not drilled militia.

**Lesson.** Complicated weapons and tactics made the use of professionals necessary.

**1469 A.D. Mass Army:** During the “War of the Roses,” the English were at home and, despite their century of experience with professionals, they immediately reverted to the use of levees.

**1494 A.D. Professional Army:** The French Army which invaded Italy consisted of 25,000 professional cavalry, 12,000 Swiss infantry, and 30,000 militia infantry. They were opposed by mercenaries.

**1469 A.D. Professional Army:** Spain organized a standing army.

**1566 A.D. Professional and Mass Armies:** Wars in the Netherlands. The Spanish professional army was opposed by a national militia and mercenaries.

In 1585, Maurice of Nassau tried with success to raise the tone of his militia army by reducing the size of the units and making much more rigid the discipline and drill. (RISE AND FALL OF THE DUTCH REPUBLIC).

**1618 to 1648 A.D. Professional Army:** The “Thirty Years War” was fought with relatively small armies of mercenaries on both sides.

**Lesson.** Similarity of organization, tactics, and equipment produced a long indecisive war.

**1642 AD. Professional and Mass Armies:** The Civil War in England began with the royal forces consisting of untrained volunteers and a few mercenaries, and a parliamentary force of organized but untrained militia.

**1645 A.D. Professional Army:** In 1645, Cromwell commenced the organization of the New Model Army; a Professional Force.

**Lesson.** Triumph of professionals.

**1700 A.D. Professional Army:** In the wars of the Spanish and Austrian Secessions, both sides used professional armies. However, the ravages due to disease and the practice of partly demobilizing every winter prevented these forces from arriving at any high state of drill or efficiency.

**Lesson.** Similarity of organization, tactics, and equipment produces long and indecisive wars.

**1740 A.D. Professional Army:** Frederick the Great had a highly trained army of 80,000 men, enlisted for life. His wars were fought with such a force against other professional armies whose training, however, was far less effective than his own. (CARLYLE).

**Lesson.** High efficiency, coupled with superlative leadership, equalized numerical inferiority.

**1792 to 1815 A.D. Mass and Professional Armies:** Marshal Foch states that VALMY is the first battle in which a “Nation in Arms,” as now understood, appears.

The wars of the French Revolution and First Empire were fought by this type of army against the professional armies then in vogue. It is noteworthy that, due to long war experience and the

enthusiasm of reformers, the French Armies attained very high ability which, when coupled with the genius of Napoleon, made them long invincible. It is further important to note that, while he had these efficient troops, he relied on mobility rather than numbers, particularly in his tactics. When they became extinct he had to resort to MASS tactics. Of his troops of 1813 he said, "With recruits it is possible to win battles, but not campaigns."

**Lesson.** Mass armies imbued with enthusiasm, using new tactical methods and being superlatively led, can defeat professionals. Genius without proper tools must eventually fail.

**1861 to 1865 A.D. Mass Armies:** In the Civil War both sides used identical organizations and tactics.

**Lesson.** Identical methods produce long wars.

Up until the summer of 1863 a regular force on either side would have had decisive results. After that date both sides were professional in everything except discipline.

NOTE. In 1864, Lee wrote a long order on the necessity for securing discipline. (HENDERSON).

The initial successes of the South were largely due to the fact that superior enthusiasm (emotional urge) replaced discipline. In the North this enthusiasm was less marked, especially in the eastern armies.

**1870 to 1871 A.D. Mass and Professional Armies:** In this war a very efficient, numerous, and enthusiastic Mass Army, excellently led, easily defeated a numerically very inferior Professional Army, badly organized and led with most remarkable inefficiency.

In 1871, the surprising results gained by the new French Army are noteworthy. (MOLTKE).

**Lesson.** Novelty of organization, combined with usable numerical superiority and good leadership, defeated a poor professional army.

NOTE. If the commanders had been swapped a year before the war started, the results would possibly have been reversed.

**1899 A.D. Mass and Professional Armies:** The war in the Transvaal hardly fits the headings used due to the fact that in this case the mass army was numerically much inferior. Its chief value comes from the lesson it gives in the lag between new weapons and new tactics. (GERMAN OFFICIAL HISTORY).

**Lesson.** Great mobility in a large theater of war, combined with new weapons and methods and opposed to stupid leadership and obsolete tactics, is bound to secure results out of all proportion to the means used.

### **Summary of lessons as to types:**

The conclusions deducible from the above summary may be tabulated as follows; Conditions tending to the use of:

### **Professional Armies**

1. Complicated equipment
2. Costly equipment
3. Intricate & precise formations
4. Necessity for mobility

(**Note:** With the exceptions of the opposite, professional armies have always had a higher mobility than masses)

### **Mass Armies**

1. Simple equipment
2. Cheap equipment
3. Simple tactical formations
4. Mobility not needed

(**Note:** In cases of Mongols, Arabs, Sythians, Aggyars, Boers, etc., this was not true)

### **Professional Armies**

5. Distant operations
6. Necessity for rapid decision absent
7. Protracted operations
8. Supply difficult
9. Discipline is more important than emotional inspiration

### **Mass Armies**

5. Local wars (Note: Now out of use)
6. Necessity for rapid decision absent
7. Short, seasonal, inevitable wars
8. Supply was easier
9. Emotional inspiration replaced the cohesive power of discipline

NOTE. With reference to items 1, 2, and 3, column 1 above, the complexity and cost of equipment are now far higher, both relatively and absolutely, than at any time in history. To meet modern conditions tactical formations are more intricate and make higher demands on the individual than ever before.

## **III.**

### **RECENT EVENTS AND OPINIONS AS TO TYPES**

#### **General:**

So much for history. Let us now examine more current events and the opinions of contemporary soldiers.

#### **Treaty of Versailles:**

In the first place, we have the striking coincidence offered by the diametrically opposed effects induced by the treaties of TILSIT and VERSAILLES.

By the former, a defeated Prussia was stripped of her professional army; she answered by the recreation of a national one.

By the latter, a greater Prussia was deprived of universal service. Is it not probable that the energy which made her conscripts formidable will do the same for her professionals?

The following statements would seem to substantiate such a possibility:



On March 3, 1919, the military advisors to the peace conference headed by Marshal Foch submitted a recommendation that, for the future, Germany be limited to an army of 200,000 men, recruited either by voluntary enlistment or by conscription for a period of one year and not susceptible of being subsequently called to the colors for reservist training.

On March 7, Mr. Lloyd George submitted an amendment to the above prescribing that the enlistments be voluntary and for a period of twelve years, without the right to discharge except for disability.

On March 10, the matter came up for discussion.

Mr. Lloyd George, in defending it, argued that with a one year period of service Germany could create an army of 2,000,000 men in ten years. He further stated that Great Britain would never sign a treaty fraught with such awful dangers to her security.

In rebuttal, Marshal Foch said that, "While it is true training for one year would produce soldiers of sorts, two hundred thousand of them would be far less dangerous than one hundred thousand professionals of the type proposed by Lloyd George."

In sustaining the Marshal, General Degoutte said, "Such a force will make Germany much more formidable than will any number of one year conscripts."

Generals Degoutte, Weygand, and Cavallero then entered a formal protest against allowing the 200,000 twelve year professionals.

The compromise resulting from this argument produced the clause in the treaty fixing the German Army at 100,000 men.

NOTE. The above facts were secured from the stenographic reports taken at the time, and were made available through the courtesy of the State Department.

Peculiar significance attaches to this fear of professionals when it is remembered that the men voicing it were all leaders of conscript armies in a successful war.

### **Opinions of leaders:**

#### **Von Seeckt:**

Ten years later, Von Seeckt in his "Armies of Today" says, "When recourse must be had to arms, is it necessary that whole peoples hurl themselves at each other's throats? Can masses be handled with decisive strategy? Will not future wars of masses again end in stalemate?"

"Perhaps the principle of the levee in masses is out of date? It becomes immobile; cannot maneuver. Therefore it cannot conquer; it can only stifle."

And again, "The levee in masses failed to annihilate decisively the enemy on the battlefield. It degenerated into the attrition of trench warfare. Germany was beaten down; not conquered. The results of the war were not proportionate to the sacrifices."

Of course, it may be urged that Von Seeckt is simply making the best of a bad bargain; but, is he?

**Debeney:**

At least his former enemies take him seriously, as witness the following:

“Germany has in effect 250,000 regulars of long service. We are prone to believe that this is the best modern form. This is human nature, for in general the conceptions of armies oscillate between two poles; the Nation in Arms and the Professional Army.” (THE MILITARY SECURITY OF FRANCE. GENERAL DEBENEY, 1930.)

To meet this menace he is inclined to think that France should have an equal number of professionals immediately ready on the eastern border as the covering army. By giving the men homes in the garrison towns they would be content. Note the similarity with the BURGESS of Charlemagne.

**Terge.**

General Terge in “The Protection of our Frontiers” (also published in 1930) says, “The professional army has these advantages; quality over quantity; instant readiness for war; ideal for offensive.”

He notes that the Act of 1928 which reduced the term of service to one year, may eventuate either in a return to a longer period of service or in a professional army.

He says that in 1914 France and Germany had nearly similar armies; since then they have followed opposite roads; France towards Militia, Germany towards Professionals. Exactly the opposite to the situation in 1870.

As a solution to this menace he suggests the placing on the eastern frontier of a covering army of regulars equal to the German Army, backed with prepared works and machines. Behind this concentration, the militia army.

## IV

### CHARACTERISTICS OF MASS ARMIES

**General:**

Admitting the cogency of the historical examples quoted as showing the human tendency to oscillate between extremes, it is still desirable to try to find out what are those characteristics of mass armies which cause some of their recent and most illustrious commanders to view them askance.

In seeking the answer to this question, the writer has asked many officers, including students and instructors at the Army War College, what in their opinion made mass armies desirable?

The majority had never considered the case. Such armies existed and, hence, were to be used. "They were the rule," so to speak.

Others based their advocacy on one of two reasons:

First; the enemy would have them.

Second; that, due to political expediency, they were the only type we could get.

Neither reply is convincing. Later, we shall point out the advantage of being different from the enemy. As to expediency, victory is also expedient, and the type of army most likely to secure it will be used.

### **Advantages:**

In general, it seems that the advantages pertaining to the use of large conscript armies are as follows:

First; the sense of power and consequent security aroused in the popular mind by an armed force numbered in millions.

Second; the opportunity to arouse popular enthusiasm and, hence, popular support by placing the burden of war on all alike.

Third; the opportunity of producing homogeneity by a maximum use of local recruitment.

Fourth; the safeguard afforded to political leaders in that if things go wrong they can say that everything possible to secure success had been done.

Fifth; the belief that a national army is the cheapest form of national security.

Sixth; the fact that in a non-likely situation, so far as the United States is concerned, of fighting several major enemies at one time, an army of millions would be demanded to furnish defenders for the several battle fronts.

Seventh; finally, the belief that the expression "BIG BATTALIONS" and "STRONG BATTALIONS" are synonymous.

### **Limitations:**

Means of communication, geographical.

The adequacy and number of roads, railroads, and navigable rivers put a definite limit on the size of armies.

Where the means necessary to move the supplies to feed and maintain masses do not exist, masses cannot be used.

This being so, the suitability, or rather usability of masses in different theaters can largely be determined in advance.

Discussion of roads and railroads in possible theaters of war.

In the theaters of the World War where really large forces were employed, 100% of the roads were improved.

Now it is a fact that, in order to maintain the armies occupying these theaters, the roads were used to their maximum capacity; while the splendid network of strategic railroads and the small size of the theaters of operations made the hauls comparatively short.

Further, it seems certain that had the Air Forces been sufficiently powerful to prevent any considerable amount of the daylight movements indulged in, even these roads would have been inadequate.

Unless all signs fail, the air forces of the next war will be able to prevent all movement of supplies by day from taking place in the zone of the armies.

Again, it is noteworthy that in this country there are 26% of improved roads, a parenthetical figure of 6%, showing the percent of surfaced roads, is more important because, for military supply in all weathers, only the surfaced roads are useful since shallow ditches and inferior surfaces used in America let unsurfaced roads become waterlogged.

In Europe, on the other hand, this is not the case because, due to ages of tamping and deep drainage ditches, the improved but unsurfaced roads have all-weather usability.

We find that in the United States the elimination of unsurfaced roads makes the area jump from 4.5 square miles to 16.7 square miles, whereas in western Europe there is one mile of improved road to each 0.6 square mile.

The number of square miles served by one mile of railroad is striking since here again the great superiority of western Europe is demonstrated.

Discussion of road and railroad density in critical areas of the United States.

An examination of the above mentioned comments may give rise to the thought that the comparisons obtained are unfair due to the many sparsely inhabited areas in all parts of the world, save western Europe.

The average road density in our northeastern area is ONE MILE OF SURFACED (i.e., improved) ROAD TO EACH ONE AND EIGHT-TENTHS SQUARE MILES. In western Europe, as has been stated, the density is ONE MILE OF IMPROVED ROAD TO EACH SIX-TENTHS OF A SQUARE MILE. On the west coast the comparison is even less favorable.

From the foregoing it is evident that the size of armies and the density of the road and railroad nets must vary in an exact ratio in so far as large forces are concerned.

Applying this fact to our own case we find that there is only one place in the world (western Europe) where we can possibly use armies of the size and organization contemplated in our General Mobilization Plan. In all other theaters such masses will either starve or be reduced to impotency.

This fact, taken in conjunction with the admittedly greater mobility and fighting value of small, highly trained and LIGHTLY equipped armies, is a weighty argument for our giving serious consideration to the organizing of our forces along lines of more general usability.

Before leaving this subject it is well to ponder the statement made by General Ragueneau, Q.M.G. of the French armies. In speaking of the possibility of pursuing the Germans to the Rhine, he says in effect; that if all the motor transport of the French Army, including the vast pool usually reserved for troop movements, had been used wholly for supply (the railroads being out) it would have been impossible to maintain more than half of the army and that only up to a distance of fifty miles from the railhead. Remember he had three times as many roads as exist elsewhere in the most favored sectors.

### **Expense:**

While the staggering expense of one hundred and eighty-six billion dollars chargeable to the World War is only partly attributable to the numbers engaged, the vast postwar costs under which this country is now laboring are the direct result of the size of the forces involved.

Pensions and bonuses are fixed institutions with us. To include June 30, 1931, our veterans have cost us fourteen billion five hundred and twenty-nine million dollars (Veterans Bureau). This staggering cost is due not only to the huge numbers involved, but also to the voting power which large organized minorities possess and use in securing legislation favorable to themselves. With smaller forces both the actual cost and the political power would be much less.

### **Complexity of equipment and lack of training:**

The more complex the weapons of war become, the less efficiently are they used by partially trained troops. Too often wars are discussed from the standpoint of materiel, rather than from the standpoint of men. Perfect men are assumed. As a matter of fact, only prolonged habit can induce nervous and exhausted men to perform the simplest tasks automatically under fire. When confronted with the manipulation of complex weapons and the use of intricate tactics, the efficiency of both the men and the weapons dwindles towards zero.

While national pride makes us reluctant to admit defects, common sense forces concurrence with DU PICQ when he says,

“Troops will rarely fight unless forced to do so by discipline. Two hundred thousand men, only half of whom fight, are not nearly so effective as one hundred thousand, all of whom do. Those who don't fight still get hurt and all must be fed. It is time we understood the lack of power in mob armies. Time is necessary to give the officers the habit of command, the men the habit of obedience. Victory is to the strong, not the big battalions. Sixty men who can beat a thousand are the stronger. Such men are not numerous. Gideon got only three hundred out of thirty thousand.”

### **Indecisiveness:**

The indecisiveness of the World War was not directly due to the numbers involved, but to the form of combat evolved to use those numbers.

“The advent of huge masses incapable of rapid maneuver made it necessary to rest the flanks on natural obstacles. Also, long fronts were necessary in order to employ the strength of the masses.” (BERNHARDI'S “WAR OF THE FUTURE”) This, of course, is due to the fact that beyond certain limits depth of formation does not permit rear elements to be usefully employed.

This evolution of the so called “Linear Strategy” was a completely new departure. Prior to 1914 the chief aim of every commander had been to defeat his enemy by maneuver, but when flanks disappeared so did maneuver; and war had to be carried on solely through the medium of frontal attacks which had for their object either the tactical discomfiture of the enemy by attrition, or else the creation of a set of false flanks by penetration.

But masses have other drawbacks besides their inability to maneuver. The areas they occupy are so large that all strategic movements must be made either by train or by truck. Due to this fact the probability of detection from the air is increased and the direction of movement limited to that permitted by the existing roads and railways.

Overhead is excessive. Because of the quantities of supplies consumed, large armies can only exist in areas having (as has already been pointed out) adequate roads and railroads. To operate these means of supply, quantities of laborers are necessary. Not only are the supplies large in themselves, but the less well trained the troops are the more technical and fire assistance do they need, and consequently the number of guns and the amount of ammunition, increases out of all proportion to that needful for the support of trained troops. (VON SEECKT).

Professor R. M. Johnston puts this very aptly when he says in his “Reflections on the Campaign of 1918”; “Low training and high powered equipment tend to produce long (indecisive) wars.”

Since mass armies depend on inertia for defense and attrition for attack their use of military stratagems is limited to one field; namely, that of rapid concealed concentrations.

Further, this volume of men and materiel to be moved is such that this operation can only be achieved in industrial areas.

“In other less populous places small numbers and high quality are needful, for if millions can be handled in northern France tens of thousands may well be excessive in the valley of the DVINA, or of the SAINT LAWRENCE. (R.M. JOHNSTON).

### **Mobility:**

Mobility, as General W. D. Connor has said, “Is the most abused word in the military lexicon.”

Mass armies are inherently the negation of mobility. Compared to small professional armies their speed and ability to move are almost zero. Yet, while the static effect of mass on the last war is well known, we still hear it repeated with “parrot like” unctious that “Modern war is a question of machines.” As a matter of fact, “Science, which devises the machines, works both ways; hence it

is wrong to speak of the triumph of the machine over man. The machine has defeated masses of men, not man himself. It never will, as it only comes to life in the hands of man.”

“The mistake comes from exposing immobile, nearly defenseless masses of humanity to machines. The greater the masses the surer the victory of the machines.” (Because not only is the mass hopeless, but the larger it is the less well is it armed and the less well can it be trained.)

“As science places more inventions at the disposal of the army, the greater are the demands on the soldiers who use these inventions.” (VON SEECKT).

The last paragraph of this interesting quotation is of particular interest in the argument it presents in support of the proposition that a recurrence of small professional armies is imminent.

Unquestionably, tremendous combat results could be attained by the use of specialized machines and weapons, manned by men trained and habituated in their use.

### **Obsolete equipment:**

Invention and improvements are a continuing process, while the manufacture of numerous new arms is a costly one. Hence it is apparent that continually to rearm mass armies with the latest weapons is financially impossible. Therefore, tomorrow, as yesterday, nations trusting to masses are bound to send their young manhood to battle with obsolete or obsolescent weapons, whose effectiveness is still further reduced by inadequate training.

So long as masses fought against masses this condition equalized itself; but when professionals were encountered, even when not armed with superior weapons, the results were disastrous. As illustrative, the following quotations from “Liaison,” by General Spears, are interesting;

“The 5th Division, engaged on a front of six miles, had together with the 19th Brigade and the Cavalry Division, completely held up von Kluck's attack . Two battalions and a battery in flank guard had, with the help of the cavalry, held up a whole German Corps.” (August 24, 1914).

“On August 26, General Smith-Dorrien, with the Second Corps and the Cavalry Division, checked a vastly superior enemy and then withdrew in good order in broad daylight.”

“This well nigh miraculous result was in great part due to the fact that the British (regulars) had established themselves as such formidable fighters that the enemy simply did not dare to tackle them save with the utmost precaution.”

On the other hand, it is economically and physically possible to keep constantly re-equipping a relatively small force of professionals and at the same time thoroughly train them in the tactics and technique of their weapons. Such a force, well led, could defeat a vastly superior national levee.

Apropos of this is a statement by Professor R. M. Johnston;

“It is not sufficiently realized that the armies that fought on the Western Front were all armies of low training . the armies, though they differed much in training qualities, were made up of conscripts and not professional soldiers.”

(In 1918) “A force of 100,000 trained professional troops could have marched through any place on the Western Front and in either direction . with such (trained) soldiers formations could be made almost indefinitely thin and flexible.”

General Lanrezac, commanding the Fifth French Army in 1914, makes the same complaint about his men as compared with the better trained Germans.

In commenting on this, General Spears says, “The errors and mistakes of the French in 1914, when in spite of great gallantry and fearful losses they were so often unsuccessful, were attributed largely to faulty training of the troops and a complete misconception of the conditions of modern war on the part of the officers. A conscript army will invariably be inferior in this respect to a professional one.”

### **The effect of aviation and chemicals:**

Finally, it is desirable to consider the effect which aviation using bombs and chemicals may have on a war of masses. Giving full credit to the great strides made in antiaircraft defense and to the inevitable interference which one air force will cause the other, it is still almost certain that the great troop concentrations, dumps and base installations of the World War are impossible of future duplication. They are too vulnerable to air attack. Where masses are concerned this fact will lead to such dispersion that many of the troops will be unavailable or unsupplied at the moment of need.

It is believed that the foregoing is an unbiased, though necessarily cursory evaluation, of the general characteristics of large conscript armies.

## V

### CHARACTERISTICS OF PROFESSIONAL ARMIES

#### **General:**

In making such an investigation it is inevitable that certain comparisons had to be drawn between such forces and professionals. In order to give a balanced picture, we shall subject the regulars to more specific comment.

#### **Mobility, supply, and usability:**

From the standpoint of mobility, supply, and universal adaptability to all theaters of war, the scales are clearly weighted in favor of the professionals.

#### **Expense:**

While from the aspect of peacetime maintenance the cost of a professional army is high, it sinks into insignificance when compared to the appalling expense due to wars waged by methods of improvisation; for as Marshal Haig said in his final report, “Great Britain was victorious due to her ability to improvise; improvisation is always expensive.”



Our present Regular Army of 130,000 officers and enlisted men cost annually in the neighborhood of \$261,503,000.

An analogous army of 15,000 officers and 300,000 men, armed and equipped in the latest manner, would cost \$500,179,000.

The United States was in the World War for nineteen months. The direct cost of this operation amounted to TWENTY TWO BILLION DOLLARS, about one billion one hundred and fifty-eight million a month. (AYRES).

In other words, the direct cost of the World War would maintain an army of 315,000 for forty-two years. Moreover, it is a better financial principle to raise money over a term of years than all at once.

Aside from the considerations above and the possibility that such a force would avert a war, there must be counted the secondary bonus expenses, which have already been mentioned as amounting to date to fourteen billion odd dollars, with no end in sight.

Since then the use of national armies tends to produce long and costly wars and longer and more costly expense accounts later, it is clear that any other sort of army capable of correcting these faults is desirable.

#### **Strategic and tactical considerations, general:**

“New weapons are usually the starting point for new tactics. Hence, in order to avoid unpleasant surprises, it is desirable to envision the future.” (BERNHARDI).

The World War produced, or saw used for the first time, many new arms; while the methods of using certain already known weapons changed so radically that they too may be classed as new. This last statement applies in particular to the massed use of guns and machine guns.

Since, however, military men are essentially conservative there is an inevitable lag phase between the advent of new arms and the appearance of new tactics.

This seemingly is what happened in France and what, in large measure, is still going on.

#### **Present army corps, strategic aspect:**

Let us take an army corps, as now prescribed, for an example and see how it conforms to the strategic and tactical conditions it is destined to meet.

Here is a force of some 80,000 men which in one column covers at least a hundred and fifty miles of road.

Obviously it should not be on one road, but as pointed out in the discussion on roads, it may have no choice.

The rations alone for this force amount to seventeen hundred and eighty tons daily.

Even if three roads are available, at least one day is required to deploy for battle. Due to interference by an active enemy on the ground and in the air, the time may conceivably be much longer. Just how great this delay will be depends on the difference in mobility between ourselves and the enemy.

In static warfare this element of time is not so vital. The corps in such a case is simply a sector command composed of shifting divisions which join and leave singly. Moreover, all movement is carried on behind a continuous line which, even in the emergency of a violent attack, has a battle life measurable in days.

In theaters where the terrain is too extensive, or the communication net too meager to admit of our supply a continuous line with the flanks secured by obstacles, maneuver will return. Under such conditions, has a force of eighty thousand men the ability to maneuver while keeping its elements within supporting distance? If we are operating against an enemy equally ponderous the answer seems to be "yes." But, in what will such a maneuver result? Due to slowness, the enemy can always meet us. The "race to the sea," without the sea, will be repeated.

Like a race between streetcars, such operations lack conclusiveness because there is no difference in rate of travel.

General Fuller, writing on Cavalry, states, "The student of history will consequently find that only when ORGANIZATION, tactics, and leadership were such as to allow of the mobility of cavalry being rapidly developed from the stability of infantry has war flourished as an art, and when this has not been possible it has degenerated into a dog fight."

His remarks, while true, are not sufficiently inclusive in that they are applied to tactics. The same thing holds in the field of strategy, but with this difference; neither cavalry nor mechanized troops have sufficient combat ability to secure a major victory unaided. Infantry is needed and to be effective it too must have a faster rate than its opponent. Our present organization, due to its size and the amount of its equipment, does not possess this capacity.

### **Tactical considerations, present forces:**

Turning now to the realm of tactics, are the formations which limited training imposes on mass armies any more suitable? If so eminent a writer as General Bernhardt can say that, "It is improbable whether infantry can ever again make a successful attack without a predominant artillery," what does he mean? The answer is clear; a tremendous artillery superiority is the only means of getting an indifferent infantry forward.

To insure such a predominance of artillery fire much time is needed, not only for the making of arrangements but also for the accumulation of the guns and ammunition. In the semi-stabilized situations with which we are familiar and on which our own and foreign tactical doctrines are still based, time was available. Equally important were the roads and railways, dumps and installations by and from which those supplies (millions of shells) could be moved and obtained.

Under circumstances where either terrain, roads, or enemy aviation preclude the assemblage of the guns and munitions an impasse is reached and our heavy divisions become impotent.

### **Reasons for using mass system:**

Why then do we cling to the mass system and to the tactics which they necessitate? Probably for two reasons; first, conservatism; second, herd instinct.

“Mankind admires force, mass, size, winds, mountains, seas. The warrior typifies force and is admired. The adoration of masses in war arises from the same emotion.” (du PICQ).

The column is a form of mass and contains all of the disadvantages inherent to it. The basic idea seems to be that the physical impulsion which will push it on will produce shock. But, “There is never any shock.”

“The heavy Boeotians, under Epaminondas, tried to break the Spartan lines at LEUCTRA and MANTINEA with a deep column” as with the ram of a ship; but the front rank stopped dead on coming into contact with the enemy; the rest of the column communicated to it no impulsion whatever because an impulse never comes from the rear.” (COMMANDANT COLIN; “TRANSFORMATION OF WAR”).

Two thousand years later the same thing occurred at McDonald's column at WAGRAM. Out of 22,000 men two thousand reached the position; as there were 7,000 casualties, thirteen thousand must have skulked. Finally, the graveyards of France bare tragic testimony to still other attempts at shock tactics. Progress and firearms had effected only this; at LEUCTRA the rear ranks stopped; at WAGRAM they ran, having first added materially to the “butcher's bill”; on the MARNE they could not even run.

The sole useful purpose of depth is to replace losses in the front line, not to push it on. It was so that the Romans used their tri-fold maniples. “Greek tactics, the tactics of columns, sprang from mathematics. The Roman from a knowledge of man.” (du PICQ).

Is there not a striking resemblance between the phalanx and the square formation for infantry used during the World War and still practiced? The answer is “yes.”

Even if it is admitted that for head on assaults such tactics were necessary, are they in war of movement? Only a tiny percent of the men engaged and endangered can use their weapons. Man can stand only a certain amount of terror, after that his nerves give out and he is temporarily useless. The deep columns suffer from this. The rear units get some casualties and constantly see, without being able to help, the ghastly ravages of war which cumber the line of advance. Terror mounts on terror and there is not the stimulation of action to hold it back. The history of a LEUCTRA, a WAGRAM, or a NEUVE CHAPELLE, is bound to be repeated, little as we like to admit the fact.

Once again, the phalanx is defeated. How shall we constitute our legion to meet the conditions so aptly expressed in a recent letter to the writer from General Fox Conner;

“One of the outstanding impressions made on participants by the battlefields of the World War was their apparent vacancy. What this actually meant was that men can no longer show themselves in any considerable bodies on the battlefield. In the next war it will be impossible for large bodies to move without enormous intervals and distance. This will be true even at night. It, therefore, follows that all units must be smaller in order that command may be retained, and in order that the larger units may be assembled on the battlefield within the limits imposed by the time element.”

### **Evaluation of arguments so far presented:**

It is believed that the evidence and arguments thus far presented are sufficient to warrant us in saying that there is a reasonable probability that the next war will be characterized by the use of smaller and better trained armies. If this be so it behooves all soldiers who, in the words of General W. D. Connor, "Are desirous of being prepared to fight the next war instead of the last" to consider the organization and tactics of such armies.

In the following an attempt will be made to initiate such an investigation.

## VI

### CONSIDERATIONS AFFECTING THE ORGANIZATION OF SMALL UNITS

#### **General:**

In order that such units may move and fight, "With enormous intervals and distances," they must be self supporting; that is, they

must organically contain all of the elements necessary to wholly independent action. Since, however, the separation of artillery into units of less size than a brigade detracts in some measure from its effect, the infantry of these units must either be so mobile that they can avoid superior enemy artillery or else must be so efficient that they can attack successfully, "Without a predominant artillery support."

It is believed that highly trained professionals, armed with the latest types of rifles, light and heavy machine guns, and utilizing the full range of their small arms while being supported by a limited amount of organic artillery, can very easily cope with much superior numbers of conscripts inevitably less well armed and less apt at the use of weapons and ground. Moreover, it has already been shown that communications prohibit the universal or even frequent employment of huge armies. Also, since terrain is seldom so complacent as to provide natural obstacles on which to rest the flanks of a continuous line, small armies will not have to contend with greatly superior numbers nor will they have to assault prepared positions.

Xenophon says, "Be it agreeable or terrible, the less anything is foreseen the more does it cause either pleasure or dismay." This is still true.

The phenomenon of both sides using identical tactics and methods of war is not new and usually has had the effect of causing indecisive battles. The Greek and Roman civil wars; the three "Battle" parallel order of the middle ages; the rigid deployments and endless sieges in the days of Gustavus, Turenne, and William of Nassau; Napoleon's remarks that he was always successful until the enemy learned to copy his methods; and, finally, the World War, are illustrative.

Hence, it seems reasonable to say that any nation developing a different type of army possessed of high mobility and superior individual ability, combined with a new method of tactics, will have a marked advantage until the enemy copies.

## **Surprise:**

Surprise is one of the prime requisites to victory.

Broadly speaking, surprise may be utilized in respect to; TIME, PLACE, and METHOD.

One of the principle reasons for the bloody indecisiveness of the World War, once stabilization had set in, is that surprise was rendered almost impossible.

Due to similarity of tactical doctrines, surprise as to METHOD was not practiced for almost three years. The startling successes attending the three departures from this rule but serve to prove it; namely, the first gas attack; Cambrai and the first tank attack; and the German offensive of March 1918.

Surprise as to PLACE was restricted in western Europe by the absence of flanks and by the rabid adherence to artillery preparations; though when the vogue for blasting tactics ran out, some scope for ingenuity was restored in the way of secrecy in concentrations.

Surprise as to the TIME was ruled out by the necessity of using darkness to cover the grouping of the assault masses in the departure trenches. The invariable, "Stand to" at dawn shows to what a low ebb surprise, as to TIME, had sunk.

While an examination of major strategy is beyond the scope of this paper, it is of interest to note that so far as nations using universal service are concerned, the only opportunity for strategic surprise lies in speeding up mobilization and concentration beyond the point the enemy conceives possible.

A return to small armies capable of, and adept at, maneuver will restore the art of surprise; though the increased speed of observation planes may, in a measure, remove the power of effecting complete surprise as to place. Even if both armies are professional, maneuver warfare still permits surprise; but in this case it will result more from daring leadership than from simple logistics.

## **Training, general:**

### **High quality needed:**

Obviously, the quality of a small army must be high in order to cope successfully with a larger one. The whole argument in favor of professional armies rests on the fact that they can be trained better.

### **Situation in 1917–18:**

We know that in our armies of 1917–18 discipline in rest areas was good and maneuvers fairly well executed. In battle, on the other hand, discipline, tactics, and the use of weapons were far from perfect. These defects arose from hasty and incomplete instruction and resulted in a plague of specialists trained by one set of officers and led in combat by another. The men of a company did not know each other or their officers. Community of interest and mutual confidence bred of long association were absent. The "buddy" idea was a literary fiction.

### **Average length of training in the World War:**

The average American soldier who fought in France had training as follows;

6 months in the United States.  
2 months in France, behind the line.  
1 month in a quiet sector.  
Total, 9 months. (AYRES).

Considering the enthusiasm of war and the one month in a quiet sector, it is safe to say that these nine months were equivalent to fifteen months in peacetime.

### **Training in conscript armies today:**

Reports filed with the League of Nations show that at the present there are thirty-six nations using conscript armies. The length of service of the principle ones is as follows;

France	12 Months
Italy	18 ”
Japan	24 ”
Russia(average)	36 ”
Poland	24 ”
Belgium(average)	11 ”
Czecho-Slovakia	14 ”
Jugoslavia	18 ”
---	---
Average	19 Months

Hence these armies are little better trained and no better equipped than were ours in France. Further, their size makes it certain that they will start the next war with the weapons with which they finished the last. Whereas a small army can be rearmed.

With such limited training, reliance will have to be placed on heavy formations, predominant artillery support, and movement inspired by voluminous orders.

A professional army could easily defeat such forces, despite a considerable difference in numbers.

### **Importance of training:**

The question of the training necessary to give it this advantage is of interest.

Caesar says that in winter he so trained his men that when the campaign opened he had only to show them the enemy in order to conquer.

Of these same troops Gibbon wrote, “A Roman field of maneuver only differed from a Roman battlefield in that on the former there was no bloodshed.”

### **The purpose of discipline and training:**

The purpose of discipline and training is:

First, to insure obedience and orderly movement.

Second, to produce synthetic courage.

Third, to provide methods of combat.

Fourth, to prevent or delay the breakdown of the first three due to the excitement of battle.

In every human being there is a natural reluctance to obey another. The purpose of our so-called disciplinary drills is to break down this reluctance and make obedience automatic. For this purpose we employ drills and manuals of arms similar to those used in 1750, with this difference; in the days of Frederick they were battle formations.

The Romans were noted for their discipline, yet a careful examination of contemporary bas-reliefs fails to show any regularity in the angle at which their arms were carried, even in a triumph. By analogy, had present methods been in vogue the Romans would have sought disciplinary drills by aping Alexander, and Frederick by copying Gustavus.

The question of attaining discipline only by the use of combat exercises is vital, and can be achieved, though parades will suffer. Battle is an orgy of organized disorder. The worst possible preparation for such a situation is one of meticulous order.

No formations or manuals should be taught which are not directly applicable to route marches and to combat.

### **Courage:**

There is a natural reluctance to admit that all men are not brave. The more distant a war becomes the braver in retrospect do its soldiers seem; yet the very regard we pay to valor shows that it is rare. If all Greeks or all Americans had been heroes, would Achilles and Sergeant York be so famous? If all armies fought to a finish, would THERMOPYLAE be of deathless memory?

To produce synthetic courage, discipline and training must be carried to the point where they become automatic; habitual. To these ends fear of punishment and certainty of reward must be utilized. The solidarity arising from mutual confidence bred of long and intimate association must be exploited. So, too, must unit and professional pride. To attain these ends proper methods (and years in which to digest ideas taught and develop automatic habit) are vital.

It is possible to teach a man to sit on a horse and to learn the aids in a few days. In a few months he can get on well if nothing happens, but to control a horse in the excitement of a polo game and to subconsciously use the aids takes years.

### **Methods of command:**

#### **Present method:**

The present method of controlling units in action depends on detailed voluminous orders and constant communication, and traces its origin to the need of employing large numbers of ill trained men and inexperienced officers in the intricate and methodical operations resulting from trench warfare. For such a situation it was admirable; probably the only solution.

To attempt to continue such a system in a war of movement, even if fought with armies as now organized, is doomed to failure.

Reports from the front are inaccurate when sent, and old when received. During the interval (often a matter of hours) conditions have changed. The leading troops will already be engaged. When this happens the commander in the rear cannot influence the movements of these troops, because units under fire move only in two directions; forward or backward.

If it is a case calling for the launching of the reserve in units the size of a present division or corps, the lag in time (caused by the writing and receiving of the report, the writing and distribution of the order, and the time needed for the reserve to develop and begin the attack) is so great that the chances of its being useful are negligible; the situation will have changed.

In the case of forces composed of small, mobile, self-contained units the method is still less applicable.

The successful use of such units will depend on giving great initiative to all leaders in actual command of men.

### **Proposed method:**

Under such circumstances the solution of the command problem would seem to rest in using the system called by the British, "The Nelsonian Method," or by our Navy, the method of "Indoctrinated Initiative."

This system is based on the belief that "the Best is the enemy of the Good"; That a simple, mediocre solution instantly applied is better than a perfect one which is late or complicated.

Among leaders of whatever rank there are three types; 10% genius; 80% average; and 10% fools. The average group is the critical element in battle. It is better to give such men several simple alternative solutions which, by repeated practice, they can independently apply than it is to attempt to think for them via the ever fallible means of signal communications.

To put such a system into practice requires frequent conferences between the leader and his subordinates in which he indoctrinates them with his method of meeting a few general situations. This teaching should then be further emphasized by map maneuvers and, finally, by actual maneuvers until the idea of a simple, spontaneous system of "team play" is developed.

Under this method, orders will be brief, simply stating the result desired, the time, and the place.

At first glance such ideas appall those of us who are accustomed to existing methods. Reflection, aided either by participation in combat or else by reading the accounts by JUNIOR officers of recent wars of movement, shows that the only revolutionary thing about it consists in substituting



fact for fiction. After the deployment, battles are fought on initiative of juniors who carry on without orders.

In making these statements we in no way disagree with Grant when he says, "In every battle there comes a time when both sides are ready to quit. Then victory comes to the leader who has the nerve to make one more push." The initial impulse comes from the leader and is based on his CHARACTER imparted by telepathic emanations, though he can personally influence one or two units. The actual work, however, is done by the subordinate commanders who, due to the small size of their forces, can exercise the personal influence of example. Large units, be they platoons, brigades, or armies, can not be so reached.

The men who man tanks and machine guns are no different from those who, in the past, wielded pikes and muskets.

"The human heart is the starting point of all matters pertaining to war." (MARSHAL de SAXE).

Inspiration does not come via coded messages, but by visible personality.

The history of war is the history of warriors; few in number, mighty in personality.

In small professional armies a method of selection can and must be used which will insure such leaders. It is true that they will frequently be killed, but the death of a high ranking officer has great inspirational effects. Their business is to win, not simply to survive.

### **Defect in small professional armies:**

Before admitting the unalloyed advantages of professional armies, it is necessary to point out one very vital defect which has been brought into being by the use of gunpowder.

In the days of hand arms, man fought man, and his life depended on his equipment and his skill with weapons. Until one side broke there was relatively little loss. But when the pursuit started so did the slaughter, because the opponents were so close together that the vanquished had no start in the race and hand weapons were not adapted to delaying action. Hence, good professional armies suffered few losses; as long as they won they kept on improving.

The following illustrations are of interest. In each case the victor is placed first:

Pharsalus:	Caesar	25,000 – losses	200
	Pompeii	60,000 – losses	15,000
Cannae:	Carthaginians	50,000 – losses	6,000
	Romans	90,000 – losses	80,000
Agincourt:	British	15,000 – losses	1,600
	French	50,000 – losses	25,000
Leipsig:	Gustavus	40,000 – losses	3,400
(Some fire-)	Tilly	44,000 – losses	13,400
(arms used)			

Gunpowder changed all this, for against bullets man enters not a duel with his fellows, but a lottery with fate. The larger casualties come before the break and defeat is less deadly because the further the opponents are apart at the decision, the better start the vanquished have, and firearms are better adapted to delays.

Due to these facts victorious armies now often lose more than the vanquished, and when this is not the case the losses are at least more on a parity. The result is that armies run down with the influx of less well trained men.

The following examples are illustrative.

(NOTE. These and the preceding figures come from “THE DICTIONARY OF BATTLES,” HARBOTTLE).

Kolin:	Austrians	54,000 – losses	9,000
	Frederick	34,000 – losses	14,000
Kurnersdorf:	Austrians	90,000 – losses	24,000
	Russians Frederick	40,000 – losses	20,000
Wagram:	Napoleon	150,000 – losses	18,000
	Austrians	140,000 – losses	33,000
St. Privat:	Germans	232,000 – losses	20,000
	French	133,000 – losses	18,000
1st Bull Run:	Confederates	26,000 – losses	1,752
	Federals	30,000 – losses	1,492
World War:	Allies	– losses	4,689,200
	Central Powers	– losses	2,750,000

This fact is very important to the present discussion; a professional army must either be so good that it is immediately victorious or else like PYRRHUS suffer defeat through victory.

### **A solution:**

In order to supply battle losses in a professional army, an enlisted reserve of regulars who have served one enlistment must be formed and it's members given enough pay to insure that their addresses will be known.

Since no nation is justified in hazarding it's existence on the chance of defeating the enemy before it;s own original force is exterminated, it will be necessary to back up a professional army with a number of reserve forces.

The function of these reserves will be to occupy defensive fronts if such exist, man lines of supply, and finally, after they have gained experience in the school of actual war, to provide additional replacements for the professionals.

The National Guard is adequate in numbers and training to fulfill this mission.

**Nothing new in method proposed:**

As always, there is nothing new in the idea of a two-type army. In the discussion of old armies (section II) frequent cases of identical procedure were pointed out.

**Not same as present system:**

At first glance it may seem that the idea of a twofold army herein advanced is identical with the time honored practice of the United States.

**Such a notion is an error:**

The plan proposed contemplates a regular army, with units on a war footing, backed by a trained group of replacements, and of such a strength that in the critical initial phases of the war it will either be wholly successful or else so damage the enemy that his final discomfiture can be effected at a minimum cost of men and money.

The proposed plan changes the regular army from a school to a weapon.

VII

DISCUSSION OF TYPE OF PROFESSIONAL ARMY TO BE DEVELOPED

**Desirable qualities:**

In seeking the mold in which to form a professional force for the performance of this mission, we should seek to accentuate the qualities of immediate readiness; fast, inconspicuous and invulnerable movement off the battlefield, combined with relatively rapid mobility and high fighting capacity on it.

**Wholly mechanized army:**

**General:**

In thinking of suitable forms our attention is at first naturally directed to a wholly mechanized army. There are, however, certain drawbacks, among which must be mentioned the following.

**Cost:**

High cost and rapid obsolescence of equipment. These factors will force us to begin the war with wholly inadequate numbers and will result in our finding ourselves faced with an hiatus when the initial stock is exhausted and the new vehicles laid down at the initiation of the war have not materialized.

**Not always suitable:**

The next factor to consider is that there do not now exist either in fact or in imagination machines capable of fulfilling all or even a measurable proportion of the functions demanded of armies.

**Always a counter:**

Finally, we know from historical analogy that all new weapons have like new diseases developed a curative vaccine. In other words, that new weapons have invariably been most effective, mechanically, during the brief period between their appearance and the arrival of counter measures.

**Antitank weapons, etc.:**

At the present time large caliber machine guns, small automatic cannon, the 5,000 F.S. bullet said to be in existence, and, finally, but most important of all, the disappearance of their novelty, have rendered armored fighting vehicles less potent than in 1918.

**Some mechanized units needed:**

We should have mechanized units of several types so grouped that they can effectively cooperate with existing arms in carrying out the several military functions which long experience has assigned to infantry, cavalry, and artillery.

Due to the steady progress of invention, it is undesirable to build large numbers of any one type of machine. Better results will accrue if small but complete units of each new type devised are built and put into service successively; as experience and ingenuity point the desirability of changes. When war starts manufacture should be concentrated on the latest approved model in each type.

**Majority of army not mechanized:**

The great majority of the professional army should consist of the types approved by the test of time and whose functions, despite changes in equipment, have remained constant since the beginning.

**Equipment:**

The equipment of this "Muscle Army" should be of the latest and **LIGHTEST** type varieties and limited to those types adapted to general, as opposed to special, operations.

**Motorization:**

Since this country contains 74.4% of all the motor vehicles in the world, possesses four companies operating truck fleets of over 10,000 machines apiece, twenty three companies with fleets ranging from 9,427 to 1,037, and nineteen companies operating from 957 to 186 trucks (National Automobile Chamber of Commerce, 1931), it is clear that ample mechanical transport is available which, if **JUDICIOUSLY** used, can materially lighten the amount of battle equipment carried by men and animals; if and only if we limit ourselves to small forces grouped in small units. To apply this system to masses would simply cumber the roads to no purpose.

Even if the exigencies of a campaign force the eventual abandonment of mechanical transport, every pound mile saved will have paid for itself in the heightened condition in which the troops enter such a phase.

It is neither necessary nor expedient to possess or maintain such transport in peace. Maneuvers and combat exercises are confined almost entirely to the battle part of war. So far as transport is concerned, all that is necessary is that from time to time a survey be made showing the location, number, and suitability of existing types of commercial vehicles so that when war comes they and their drivers can be acquired. Small armies do not need much transport; industry would not be paralyzed.

#### **New weapons:**

Since one of the principle virtues claimed for a professional army is that due to its limited size, it may be continually rearmed with the newest types of weapons, it is evident that initially the auxiliary army should use present equipment, otherwise expenses would prevent development.

#### **Organization of auxiliary army:**

So far as organization is concerned, the auxiliary army, depending as it must, more on quantity than on quality, should be organized along present lines with units at half present authorized strength, because any attempt to utilize the elastic formations adaptable to professionals is doomed to failure due to lack of training.

#### **Tables, illustrative only:**

The construction of tables setting out in detail the organization recommended for a professional army is not only beyond the scope of this study, but also beyond the capacity of any one individual. The numbers and armament herein shown are simply illustrative of the principles believed essential.

## VIII

### ORGANIZATION OF PROFESSIONAL ARMY

#### **General:**

The guiding principle of organization should be the endeavor to devise means of killing without being killed.

The best way to accomplish this is to reduce the number of human targets while at the same time increasing their killing power. If these individuals can be widely separated, a further saving in losses is assured.

The drawback to wide deployment comes from the fact that usually the several steps in the echelons of command are charged with supervising so many men or groups that they either reduce the interval to increase control, or else abandon control to maintain the interval.

Since, "Man engages in combat for the purpose of gaining the victory and not for the purpose of fighting," (du PICQ) and since it is impossible to gain victory without fighting, control is necessary. The obvious solution is to reduce the size of the groups forming each echelon. Everything is simple until the question of supporting arms versus mobility obtrudes itself.

### **Infantry units:**

#### **General:**

Groups composed of two machine guns and one cannon probably represent the best means of attaining the maximum fire with the minimum men. Unfortunately, such a group is impossible because it is immobile and has so few men that it cannot exercise that threat to close which wins battle.

This being so, we must seek a solution which, while retaining the firepower of the cannon and machine guns, also possesses adequate personnel, is mobile, easily commanded, and still admits of such wide deployments as will reduce its losses in battle and avoid interruptions on the march.

As has been already indicated, infinite deployment is easy if we can disregard human nature. Since this is impossible we must utilize it.

Man is a gregarious, vain, and at the moment, a mechanically minded animal. These traits should be exploited by grouping him around a machine where the vanity of his self esteem will make him fight.

#### **The light machine gun:**

The light machine gun provides an ideal nucleus for such a mechanical minded group. Moreover, being a machine it is less susceptible to the palpitations of fatigue or emotion than is the rifle. To insure the homogeneous mobility of the group, horses or tractors as a means of transportation are not included; the weapon must be manhandled. Four men, relieved of the weight of their rifles and bayonets and working in pairs, are adequate, and at the same time they can carry 150 rounds each on the march and 250 rounds in battle;

total, 1,000 rounds. Twenty-five hundred rounds will be more than sufficient for such a gun. To get this extra 1,500 rounds, riflemen must be used. If we ask each man to carry into action an added 100 rounds, we get nineteen men, or twenty with a sergeant, as a complement for each gun.

From the view point of target range accuracy the light machine gun is slightly less efficient than is the heavy water cooled variety, but it goes with the assault echelon where its presence is visible and audible. This the heavy gun cannot do. Moreover, the heavy gun is not wholly abandoned.

#### **The platoon and company:**

Returning to our group or section and building from it as a basis, we get a platoon of two sections and a company of three platoons.

#### **The battalion:**

A battalion of three such companies totals 466, and will have at its disposal eighteen machine guns and 359 rifles. This gives considerable combat value without violating the principle of keeping the echelons of command small. Further, it is not cumbered with either animals or tractors. On the other hand, it is not wholly self supporting in that it does not contain artillery; but were artillery attached it would not only reduce the march, it would also fail to utilize the range of that arm. The question will be examined later when we consider frontages.

### **The brigade:**

Combining three such battalions with a company of heavy machine guns (animal drawn) and a battalion of field artillery (motorized), we get a composite brigade, which forms the next echelon of command.

The choice of the name "brigade" is open to criticism. It was adopted in recognition of the fact that while separate arms are reluctant to serve under a colonel of any one of them, they are perfectly content if his name is changed to that of "general." In order to avoid overhead and delay in the transmission of orders, either the brigade or the regiment had to go.

In considering this composite brigade it will be noted that the machine gun company consists of four platoons. Three platoons are the .30 caliber gun and mount; the fourth is a platoon of .50 caliber, air cooled machine guns.

The purpose of this company is two fold; first, it can give the usual supporting fire of machine guns; second, in circumstances where enemy tanks are expected, two battalions can be provided with a platoon of excellent antitank weapons. Unquestionably, it would be nice to have more antitank weapons available, but they cost men and road space; so they have been eliminated. The outstanding defect of our present organization arises from the fact that we have yielded too often to this tendency to be prepared for anything and everything, with the result that we cannot move.

Animals have been retained for draft purposes on the grounds that at the speed required they give more fluid mobility than do machines. Moreover, they can be replaced by requisition in any theater of war.

An examination of the formation of the field artillery battalion reveals the fact that it is composed of two batteries of 75mm guns and one battery of 75mm howitzers. (This gun is the present pack artillery weapon mounted on wheels).

Again, this battalion serves two purposes; it gives to the brigade the normal supporting fire of artillery, but being in the brigade makes that small unit self contained. The battery of howitzers is also available to supply a platoon of accompanying guns or, if on the defensive, antitank guns to two battalions. The range of these weapons is 9,200 yards, which for the supporting purposes in maneuver war is enough.

### **The division:**

Combining three such brigades with other units we produce the Division.

Little argument is needed to defend the incorporation of a squadron of seven observation airplanes. The number is only half of those now used, because of the reduced size of the division.

The tank battalion of thirty-nine machines of the Vickers-Armstrong or the modified Christie type is added; first to permit a means of further exploiting the mobility of the division on the offensive; and, second, when on the defensive, to provide a means for local counter attacks.

The organization proposed for this battalion is as follows; the platoon consists of three tanks and one self propelled small cannon (about six pounder) mounted on an identical chassis. While admitting the expensive nature of self propelled guns, they none the less are believed necessary because, in open warfare, the platoons will operate on broad fronts and will often meet situations demanding IMMEDIATE supporting fire; they, too, must be self contained.

The company consists of three platoons and the captain's tank. The battalion of three companies.

Post war reflections on the circumstances attending war of movement have already caused several countries, including England, to incorporate cavalry in their divisions.

The platoon of armored cars with the squadron is for the purpose of bridging the gap between air reconnaissance and the relatively close work performed by the horsemen. In addition to reconnaissance, in general the squadron will also be useful in covering night movements of tanks, in acting as a mobile reserve, and for general security.

### **Cavalry units:**

General:

In preparing an organization for Cavalry, principles adduced for Infantry are equally applicable. The organization herein presented is practically identical with that at present in effect, except that the numbers have been reduced.

### **Cavalry platoon and troop:**

In the troop there are three rifle platoons and one light machine gun platoon. Aggregate force; 116 men, 6 light machine guns, 84 rifles.

In a purely dismounted fight the three squads of the machine gun platoon are incorporated one to each rifle platoon, and an organization similar to the infantry, but with less ammunition, is provided.

When cover permits the use of the mobility of the rifle platoons for mounted envelopment, regardless of whether the fighting conducted is mounted or dismounted the light machine gun platoon forms the pivot about which the rifle platoons maneuver.

### **Cavalry squadron:**

The squadron consists of only two troops. (Aggregate; 241 men, 12 light machine guns, 173 rifles). To give it three would make it too bulky for command.



**Cavalry brigade:**

Again and for the same reason, the regiment is eliminated and the brigade formed from three squadrons, with the addition of a three platoon machine gun troop, combining the .30 caliber and .50 caliber guns, a troop of armored cars and a battery of horse artillery using 75mm howitzers.

A study of successful cavalry operations in both the Civil War and in Palestine, and of the German Cavalry in Russia and Rumania, clearly demonstrates the advantage of having batteries attached to small mounted units.

The troop of thirteen armored cars is necessary, as in the case with the divisional cavalry, to bridge the gap between the airplanes and the horse patrols for reconnaissance. When roads do not permit the use of these vehicles, they will be held in reserve with the division. Aggregate for brigade; 1,145 men; 36 light machine guns; 8 machine guns, .30 caliber; 4 heavy machine guns, .50 caliber; 562 rifles; 13 armored cars.

**Cavalry division:**

The division consists of three brigades with some trains, signal troops, medical units, and a mechanized cavalry regiment.

It will be noted that the cavalry tank squadron of the mechanized regiment is arranged with three tanks and one accompanying gun in the same manner and for the same reason as in the infantry tanks.

Further, it should be noted that the type of machines used for a mechanized regiment should be constructed to carry out the minor combat functions of cavalry, whereas tanks with the infantry division should be constructed for major combat operations.

**Summary:**

It is desirable to repeat here that the organizations specified above are only illustrative. More critical study will probably point to the need of certain changes in the ratios of the several arms. In making such a study the tendency to provide for everything should be discouraged; that way lies immobility.

**Corps and armies:**

It is believed that since the organization of corps and larger units depends wholly on the theater of war, it is foolish to specify them in advance. All that is necessary is to provide the suitable special arms, such as the air forces, medium artillery, engineers, etc., which they will have to use. However, in view of the probable difficulties of moving large units, as brought out by General Fox Connor, these corps troops will usually be attached to divisions; the corps commander acting in fact as the commander of the theater of operations.

**IX****TACTICS OF PROFESSIONAL ARMY**

**General:**

The chief defects in the present methods of attack result from the fact that the masses used are clumsy and intricate; hence hard to deploy and impossible to control. The columnar formations of attack emphasize these defects, while at the same time they subject a great many men to danger while producing an assault echelon lacking in fighting power. Under this system the only means of victory seems to be to collect quantities of guns and mountains of ammunition and then, by having masses of infantry, to hope that some will survive to reap the victory blasted for them by the guns. An enemy capable of more rapid movement will either not select ground suitable for such tactics or else will not wait calmly while the preparations, days in the making, are perfected.

**Infantry tactics, offensive:****General:**

If, then, we hope to conquer by other means than having his infantry scavenge in the wake of the shells, we must get some power into our firing line. If we adopt the present methods of a deployed line of skirmishers, we get little power at the start and none at the finish. The obedience secured from short service men is mental, not automatic. When such men are deployed their mental reactions are dimmed by excitement and a sense of isolation; many do not press on when ordered, because being isolated and invisible, fear of being thought afraid does not affect them. This hesitation occurs more at the long and medium ranges than at the short range. These things are so tense that men must move; it is safer to go on than to lie still. "A retreat forward" takes place.

**The platoon:**

The infantry platoon of forty-three men suggested differs little in size from the present one of some fifty odd. Hence, if we string it out in a skirmish line the only advantage it would have would result from longer training and its light machine guns; this is not enough.

To overcome the straggling incident to skirmish lines it is proposed to deploy the platoon in line of section columns of files or twos, with the light machine guns leading. The interval between columns will be from fifteen to thirty yards.

The platoon commander will be in the interval and abreast of the guns; he can, therefore, insure progression. Moreover, the crowd spirit and the lure of the machine will be helpful.

To advance, the corporal of one gun squad moves out and finds a new location to which the gun is moved under protection of the other. The second gun moves up. Then the platoon commander. Finally, the platoon sergeant and the two section sergeants see that the columns advance. (Ammunition is handed to the guns starting with the men farthest away. Gun crews reserve theirs to the last).

When decisive range is reached the riflemen will be deployed.

It is believed that up to close range two machine guns so used will produce much more fire effect than is possible with rifles and auto-rifles, many of which are absent. The rifle grenadiers will be used when necessary to prepare the assault.

While for brevity the case has been described with the guns and riflemen staying together, there is no reason why the sections may not be split, or why the gun squads may not stay together and the riflemen be used separately as in the cavalry. Such variations will be made at the shorter ranges.

### **The company:**

The second platoon of the company, similarly arranged, will be deployed to a flank with an interval up to a maximum of 200 yards.

The third platoon, frequently in support, will be in the interval. Its guns should be used whenever cover permits.

### **The battalion:**

The interval between companies can be as great as 300 yards.

With two companies in the firing line and one in reserve a battalion will cover a front of possibly 1,000 yards.

### **The brigade:**

The brigade with two battalions in action, with a maximum frontage of 2,000 yards, can still support its whole line with the heavy machine guns and artillery when the latter are held centrally.

It would seem that within limits there will be almost no restrictions to the deployment interval between brigades. Each is self contained and each with one battalion in reserve has a means at hand of checking counter attacks.

This elasticity should be used to cause the enemy either to over extend his inelastic front or else, if he cannot or will not move, to go around him.

### **The division:**

For turning movements or flank attacks advantage should be taken, whenever the nature of the ground and the presence of cover permits, of using the tank battalion as a means of still further increasing the encirclement.

This is the operation which mechanization enthusiasts dilate on, but they, in imagination, start the move too far from the objective, and then to insure surprise have to assume impossible speeds.

Here we simply move the tanks up under cover behind the most extended flank element of the infantry. No speed is necessary and the ground over which the tanks march is protected. Further, the cavalry will cover the approach of the tanks when they pass beyond the infantry and will reconnoiter roads for them up to the takeoff line. To use tanks for assault over open country is suicide.

In view of the great intervals between all units the need for “indoctrinated initiative and simple, short orders” is highly emphasized.

### **Defensive:**

The teaching as to very wide intervals will still hold. The firepower and mobility of the reserve units will be exploited and, finally, the tanks afford a fine weapon for limited counter attacks. In fact, due to the time and opportunity for careful reconnaissance, they are better for this than for any other operation. But this type of army can be pounded to pieces if it sits down in a narrow country with its flanks on natural obstacles and waits for a blasting attack. Its mobility should enable it to avert such a fate by maneuver. In the cases where special circumstances prevent maneuver the reserve army, as has already been pointed out, should be used to hold the defensive line. While this is going on, the professional army should be employed for flank attacks, breakthroughs or, if the enemy penetrates, for counter attacks.

This does not mean that even in western Europe a mobile army would be impotent. At the start of a war it is impossible to deploy an adequate force behind the whole length of a frontier and then start it rolling in one long, flankless, resistless, wave.

In the first place, the supply difficulties would not permit it; but disregarding this fact, the numbers necessary for such an operation demand a national levee. During the time needed for this and for its deployment a professional army could do a great deal of harm. It might be decisive; if not, it would cause its opponent to occupy very unfavorable ground and would insure ample time for the raising of an opposing national levee to meet him.

### **Cavalry tactics:**

The higher mobility given to cavalry by the presence of its horses simply accentuates the capacity for wide deployment as outlined for infantry.

This fact, coupled with the high firepower with which the proposed organization endows it and the advantage which it will frequently derive from the assistance of its mechanized elements, makes it, for maneuver warfare, more effective than it has been for a thousand years.

Nothing in the organization proposed affects the well understood roles of the arms. But the means of accomplishing these tasks have been made more effective.

## **X**

### **POINTS TO BE EMPHASIZED**

In conclusion, the following points should be emphasized:

1. In the World War the use of mass armies produced by nations in arms failed to attain decisive results.

2. Many nations concur in this belief and are seeking a remedy.
3. Historical analogy and enlightened opinion both point to the probability that this remedy will take the form of a war of movement conducted with small, mobile armies.
4. Due to lack of training and natural inertia large national armies are incapable of mobility.
5. Modern war conditions prohibit the movement or control of masses on the march or in battle.
6. Small professional armies composed of smaller self contained units offer a solution for the restoring of mobility and, hence, for shorter and more decisive wars.

A handwritten signature in black ink, reading "G S Patton Jr." with a stylized flourish at the end.

G.S. Patton, Jr.,  
Major, Cavalry.

## NOTES ON COMBAT ARMORED DIVISIONS

By General George S. Patton, Jr.,  
Third Army

1944

The means of securing the data on which to discuss the fighting methods and organization of Armored Divisions are identical to those used for securing similar data for Infantry Divisions.

It should be noted that the Third Army possessed no old type heavy Armored Divisions such as the 2nd and 3rd. Discussion is therefore limited to the new or light divisions. All witnesses were unanimous that this type of Armored Division is deficient in Infantry, Artillery, and Supporting Arms; particularly Supply and Maintenance. An algebraical sum of the various opinions of the organizations interviewed produces the following:

An Armored Division should consist of three Combat Commands (or Regiments). Each Combat Command should consist of two Armored Infantry Battalions, one medium tank battalion, one battalion of 105 self propelled howitzers, one battalion of 155 self propelled howitzers, and one reconnaissance troop, plus the normal headquarters units. Each armored infantry battalion should contain three rifle companies, one heavy weapons company and the headquarters company. The medium tank battalion should consist of three medium tank companies, one light tank company and normal headquarters. The reconnaissance troop should consist of headquarters, three reconnaissance platoons, and a small light plane unit. Each reconnaissance platoon should consist of three armored cars and six peeps with armored windshields (for morale purposes only) plus five similar peeps for troop headquarters.

The foregoing units are organic in the combat command. In addition, the combat command while functioning should have attached to it one company of engineers, one company of ordnance (medium maintenance), one medical company, one antiaircraft battery (self propelled, dual purpose).

In addition to the foregoing, the division should have one reconnaissance squadron consisting of three reconnaissance troops plus one assault gun troop of 105mm guns, one light tank company (M24), and one medium tank platoon with 90mm guns, and a small light plane unit.

Also at the division level should be two QM truck companies, one engineer battalion command of four lettered companies and one bridge company, one antiaircraft battalion, one ordnance battalion, and QM battalion, one medical battalion and one signal company, reinforced. Note that the ordnance, engineer, medical, and antiaircraft elements are attached for combat as above indicated and are taken out for training by their respective battalions. There should be an air-ground liaison detachment with each combat command and at division, the latter to act as an air-ground control center.

The division command should include a Major General division commander, one General Assistant Division Commander, and one General Artillery Commander with appropriate staffs.

In exploitation or pursuit, armored divisions will generally move with two combat commands up and one back. However, they are perfectly capable of moving with the combat commands abreast.

Movement in column of combat commands should be avoided due to the length of time required to engage with a long column.

Each combat command should move on at least two roads in which case it should be divided into a heavy and a light column. The heavy column should move on the side where the greatest danger is apt to be encountered or where the ground most facilitates the use of its heavy proportions of armored vehicles. Normally, the heavy column should have two thirds of the armor, better than half of the infantry and two thirds of the artillery. Probably the 155 battalion would be with the heavy column plus one battery of 105's. In the light column would be the battalion of 105's. The supporting elements are divided on approximately the same proportion, using, however, the best roads for the heaviest loads.

A suitable organization of the reconnaissance and covering detachment of the heavy column is the reconnaissance troop less one platoon reinforced by one medium tank platoon and a company of armored infantry. This force precedes the remainder of the column by fifteen minutes. The main column consists of the medium tank battalion less one platoon of light tanks (with the light column) and less one tank platoon (with the covering detachment). Next come the command group consisting of the combat team commander, the armored battalion commander, the infantry battalion commander, and the air liaison and artillery group commanders. These are followed by one battalion of artillery, probably the 155 battalion, which is followed by the remainder of the infantry and the other attached elements of the command.

The light column is preceded by one reconnaissance platoon reinforced by a light tank platoon and a platoon of infantry. The main body consists of a medium tank company, the column commander with artillery and infantry officers, the artillery and infantry belonging to that column and the remaining elements as the situation commands. The antiaircraft company is split between the two columns.

Before proceeding to discuss actual combat, it should be pointed out that the division reconnaissance squadron either acts to cover a flank or covers the whole command in which case the combat command reconnaissance troops can stay in much closer.

In any reconnaissance movement, whether divisional or combat command, the formation is, with present armament, are one machine gun peep, followed at from 40 to 80 yards by a second machine peep, then an armored car, then a mortar peep, then a second armored car, then light tanks if they are present, then assault guns if they are present. Otherwise, one machine gun peep, two mortar peeps, a third armored car. This unit precedes the covering detachment by thirty minutes.

When time is not vital, the leading vehicle halts and a foot reconnaissance is made around blind curves and over crests. When time is vital, the vehicles go on until shot at when they immediately deploy and open fire. The presence of L4 or L5 planes tuned in on the same wavelength and flying ahead of the column is vital to the maintenance of rapid information. With the combat commands and with the division command post there should be a signal corps monitoring set which can pick up the information turned in by the reconnaissance radio sets and immediately apprise the different commanders of the situation. This continuous information is more necessary to the combat commander than to the division commander.

When, under circumstances which make tank vs. tank fighting inevitable, an armored formation runs into enemy armor fighting according to the German method; that is, very unaggressively, our

infantry has little value unless woods are present and should, therefore, keep out of the fight and let the armored vehicles come up and shoot it out supported to the maximum by divisional artillery and the tactical air. The presence of this tactical air and the 155 howitzers will give our armor a tremendous advantage. But our armor must remember to seek the flank, to attack from the rear, to use several tanks against one tank, and to use white phosphorus with a view to immobilizing the enemy and then maneuvering to hit him when he comes out of the smoke. When and if the terrain permits, the armored infantry utilizes its best efforts to get to where it can initiate an attack against the enemy armor through the use of bazooka or antitank grenades.

In attacking fortified villages or other enemy positions the question of whether the armor or the infantry leads depends on the type of terrain. Where there is an opportunity for a rapid advance on a wide front the tanks lead followed by the infantry mounted. If the country is close or full of obstacles the infantry leads followed by the tanks which give close up supporting fire until a break through is created by the infantry for the tanks.

In the attack against villages or small towns by either the light or the heavy column the leading third of infantry and armor and the majority of the artillery establish a pivot of fire. They are joined by the combat engineers for the purpose of locating mines which usually exist along the axis of an advance. While this is going on the remainder of the command under the senior officer with the command executes a wide envelopment with a view of attacking the enemy from his rear. That is, the angle of attack between the axial pivot of fire and the enveloping force must be greater than 100 degrees. When the enveloping force is in position it initiates the attack while the pivot of fire stands fast until the enemy has started to react to the enveloping operation by the movement of his guns, infantry, or armored vehicles. As soon as this takes place the pivot of fire assumes the offensive parallel to, but usually not exactly on, the axis in order to avoid the minefields. When the heavy and light columns are relatively close together the column encountering the resistance can act as the pivot of fire while the other column acts as the enveloping force. This is one of the cardinal principles in tank operations. It is the one-two punch in boxing. But, as before stated, the number two punch (the enveloping movement) must start before the number one punch (the direct attack).

While I am conscious that prescribing specific distances will shock non battle experienced tacticians, the necessity for seeing that the enveloping attack strikes the enemy rear is important. Few such envelopments will go wrong if the enveloping attack leaves the axis of advance one and a half miles in rear of the point of contact and moves on the arc of a circle one and a half miles in radius with its center, which is the center of the pivot of fire, to a position from which it can initiate its attack. Obviously, such a statement is going too far, but in order to insure that in the early phases of the next war our envelopments are not, as heretofore, habitually made too close in, the above formula should be used.

In the final assault of the village, the tanks fire at the lower floors so as to drive the defenders into the cellars. Some tanks must enter the village with the infantry. Both the infantry and tanks throw white phosphorus grenades into the basements to induce the enemy concealed there to surrender. An attack of the nature just described by a combat command would probably take three hours to organize. The actual fighting will probably last fifteen minutes. If the show is hurried and the assault starts, say, within an hour, the fight may well last an hour and be much more bloody.

In attacking towns over 10,000 population, it is better to make two direct penetrating attacks at an angle of about 100 degrees apart, break into the center of the town and then fight outward. When moving through woods or high crops, or any other place where the cover permits, or in fog, as



much armored infantry as can obtain a place should ride on the tanks to immediately exploit their success and to prevent them from being attacked by bazooka teams. Where there is bright moonlight and the ground has been completely reconnoitered by day, armor can attack at night provided it does not attempt to repeat the operation on the succeeding night because that usually finds the men so fatigued that the attack has no drive.

The normal formation for engaging armored units with tanks leading is to employ two medium companies up, one back, the light company on the flank or prepared to exploit a breakthrough. Each of the leading armored companies has two platoons up and one back. The interval between the tanks of platoons on the line is from 60 to 70 yards. The distance of the support platoon behind this line is about 100 yards. The infantry supporting the tank attack advances mounted behind the two leading companies and in front of the support tank company. If there is more infantry than can be used in such a position the remainder follows the support tank company.

Whether or not an armored attack should be preceded by artillery fire depends on the evidence of organization which reconnaissance has revealed. If the enemy appears well organized then artillery fire must be used, particularly on his CP's. Otherwise, the prepared fires are arranged but not used and the attack, when started, progresses with the maximum speed possible.

In an armored attack with the infantry leading, normal dismounted formations are utilized after the deployment has been made mounted. In this case tanks also act according to supporting tanks operation with a normal infantry division and again seek the first opportunity to break through. When the breakthrough occurs, the infantry near the tanks mount them as the tanks pass through the skirmish line.

It is almost never feasible to attack directly from column. However, the further from the assault line the assembly position can be occupied, the better, because then there is a chance to deploy prior to contact. In all armored engagements marching fire by all guns on the tanks and infantry carriers, including the anti-aircraft guns on the tanks, should be commenced as soon as it is reasonably possible to hit. In normal country this is between 600 and 1,000 yards. In very flat country open as soon as you can get the splash of your hits. Marching fire is vital while moving through woods; canister is most useful.

At this time it is desirable to emphasize the necessity of having a second coaxial machine gun in the mantel. One of the two machine guns should be 50mm and the other 30mm, both with the normal rate of fire. Stepped up fire wastes too much ammunition and the tank cannot carry it. At this point it is also well to bring out the fact that

the sole purpose of the cannon on the tank is to let the tank get in where it can use its machine guns to kill the enemy. Avoid tank vs. tank fighting if possible. It is indecisive. Use medium artillery on enemy tanks. If tanks must be fought, use maneuver and attack one enemy with a section or platoon.

Using time fire with 105's and probably 155's, it is possible for the tanks to stay exactly under the concentration. This is particularly excellent as a method of exploiting the tanks through villages, through woods, and for the quick capture of as yet undestroyed bridges.

Violent and rapid attack with the marching fire is the surest means of success in the use of armor.

While it is possible to march armor at night, it is better to halt two hours before dark, attend to maintenance, refueling, feeding the men, and to prepare for a start prior to daylight the next morning. The armored vehicles should be parked so all of their guns can bear outward. The unarmored vehicles, if present, should be inside the circle of the armor. A cordon of infantry in as small a number as possible should be outside the armor at a distance of about 50 yards. One man must be awake at all times in each armored vehicle while the rest of the men sleep in it's immediate vicinity. The remainder of the infantry should sleep inside the cordon formed by their own troops and the armored vehicles. Too much stress cannot be laid on the obligation of officers to maintain constant inspection to see that the men do not go to sleep on their posts.

It is the opinion of those questioned that the great difference between an armored division and an infantry division is that in the latter it is the mission of the tanks to get the infantry forward, whereas in the armored division it is the mission of the infantry to get the armor forward.

Owing to the certainty that in the next unpleasantness the enemy will have the proximity fuse, all armored infantry carriers should be full track and should have overhead cover protecting them from fragmentation. It is highly desirable that each carrier transports a complete squad. It must be arranged so that no machine guns can be fired from the carrier in motion. The question of weight up to 50 tons is now purely academic so there is no reason for us to fool around with light skinned carriers. We must preserve the lives of our infantry for the last hundred yards where nothing but infantry can be successful. The same question of overhead cover applies to self propelled AA guns and to self propelled artillery.

In cold weather armor permits an easy augmentation of night cover for the men. This must be carefully attended to because the danger of fire incident to a few bedding rolls on armored vehicles is far less than the danger of frozen feet or hands from not having them. If we have covered carriers, it is desirable to use heaters similar to those we now have in automobiles. All armored vehicles should have hot plates so the men can warm up something to eat without lighting a fire whenever the vehicle halts.

While this is probably not the proper place to bring it out, it is my opinion that the most important development for armor is not a bigger gun or thicker armor, but better armor which weighs less. It may well be that a judicious combination of armor and plastic will be the answer to this problem.

**Replacements:** Each armored division should have in it's organic tables of organization one company of armored infantry replacements, one company of armored replacements, one company divided into platoons to contain replacements for all other elements of the division. Authority must be granted to allow for over-strength in grades, ratings and numbers in order to accommodate returned wounded. It is my experience that such over-strength is illusory and in any case does not survive the first day of combat.

THE LENGTH OF COMMAND IS  
MEASURED IN TIME, NOT IN MILES



George S. Patton, Jr.  
Commanding General

Third U.S. Army  
(1944)

# NOTES ON TACTICS AND TECHNIQUE OF DESERT WARFARE

By Major General George S. Patton, Jr.

1942

## INTRODUCTION

Desert operations involve no change in the fundamental principles of tactics as laid down in the Field Service Regulations of the United States Army and manuals of the Armored Forces. They do involve, however, certain new techniques with which our officers are in the main totally unfamiliar. The notes emphasize those features of desert operations which differ from the traditional technique of tactics and which are vital in the successful prosecution of any campaign and which must be followed if the command is to avoid disaster.

The formation and methods herein set down are not the result of theory, but have been derived from repeated experiment in accordance with the method of trial and error.

The exigencies of the training situation and the requirement that these notes be made available without further delay, has prevented having them put in finished form. It is hoped that serious lapses in the art of writing will be overlooked and that the substance rather than form will be taken and used.

## DISPERSED FORMATION

The purpose of the Desert Training Center is to determine the technique of living and moving in the desert and the tactics of desert fighting, particularly when opposed by armored formations, and in the face of inevitable air attack.

Since there is little or no terrestrial cover in the desert, it is necessary to completely revamp all previous ideas of security based on concealment either from the ground or from the air. In the desert security from the ground must be obtained through ample and distant reconnaissance in all directions which must be continuous. This reconnaissance is performed both by ground units and air observation units. **THESE AIR OBSERVATION UNITS MUST HAVE A RADIO WHICH IS CAPABLE OF COVERING TWO WAYS WITH THE RECONNAISSANCE ON THE GROUND** in addition to the normal Air-Ground communication in the Air-Ground Net.

Security from surprise air attacks is attained by having at least two air watchers in each platoon or equivalent and by having strict air discipline. Further, it is a function of our reconnaissance aviation to inform us of the existence and proximity of hostile air units so that we will not be surprised. In addition to the attainment of security above described, it is necessary to base security on dispersion. The object of dispersion is to make our forces a non-lucrative air target and a highly defensible ground target while at the same time not extending the dispersion to the point of loss of control.

## METHOD OF SECURING DISPERSION AND OF RETAINING CONTROL

The principles here set down are applicable to all units. They are based on the utilization of a line and columns, each column consisting of a tactical unit, that is, of a platoon or company. The commander of each of these units (forming a column) is in the leading vehicle and is distinguished by a specific flag.

In column the distances between vehicles is a minimum of 75 yards and every effort must be used to prevent this distance from becoming excessive. The interval between the columns is 150 yards. There is less difficulty in maintaining interval than there is in maintaining distance. The diagram shows that where any cover is available, the vehicles may follow in trace, whereas in the bare open desert they assume staggered column.

It is essential to remember that there must be no lines of vehicles from front to rear, crosswise, or diagonally, because it is against a line of vehicles that a diving airplane can best direct itself either to use bombs or machine guns.

The movements in dispersed formations will be taught initially through the use of battalions or companies of one particular arm. When this mechanism has been mastered and the technique of driving and maintaining distance acquired, the units will be mixed up into task forces as the tactical situation demands.

In order to avoid repetition, it is here set down that formations and materiel are of secondary importance compared to discipline, the ability to shoot rapidly and accurately with the proper weapon at the proper target, and the irresistible desire to close with the enemy with the purpose of killing and destroying him. Throughout training, these things must be stressed above all other.

#### NOTES ON INSTRUCTION

**The following points are important with respect to instruction in dispersion and should be stressed.**

Except when in park, no vehicle must ever be permitted to approach within 75 yards of any other vehicle. This does not apply to the quarter ton truck.

Only cargo vehicles have tops up; all other tops are down.

Stress the maintenance of distance, not to exceed 75 yards, particularly in road marches, but also in group movements.

Jamming must be prevented. The senior officer locally present is responsible that jams do not occur. He must dismount from his vehicle to insure this by active command.

Demonstrate to individual drivers on sand table or on the ground, using blocks, the formations and methods of movement. Make the formation of march groups, either from bivouac or from parks, a precision drill.

Any desert with a yellowish tinge is apt to be sandy and should be carefully reconnoitered before attempting to cross. This type of desert frequently occurs on the west slope of north and south ridges.

For desert operations, tires on wheeled vehicles can safely be deflated to 70 percent of specified inflation. When stalled they may be deflated fifty percent, but should be reinflated to 70 percent after the stall is over. For movement of more than ten miles on roads, normal inflation must be resumed.

In sand, avoid abrupt turns, either with full track or half track vehicles.

When stalled, see that front wheels are straight ahead before attempting to get out. Dig out sand in front of wheels in direction of movement. Some brush placed crossways under wheels helps. Don't burn up your engine.

Use a long tow rope, 30 to 50 feet, to pull out stalled vehicles. Towing vehicle must be on hard footing.

Never exceed authorized load of vehicle. Try to keep to three-quarters load.

In desert operations you can figure on getting only one-third of your rated gasoline and oil mileage in all types of vehicles.

At regular halts, all crew members except the AA gunner dismount. All ports in tanks will be opened and not closed until after engine is started at resumption of march.

Half of all wheeled vehicles and half tracks should have as standard equipment, air-pumps, patches, spare inner tubes, a jack, and two ropes or cables.

Clean and brush off radiators at all halts. Check inflation, water, and oil.

Oil all glass windshields, leaving a 2 by 8 inch clear space in front of driver and assistant driver. The windshields of quarter tons are put down and covered. If they have no cover, they should be oiled.

Tanks should take sand slopes at right angles, not obliquely. Oblique slopes pull tracks.

Never send less than two vehicles on distant missions. In case of a breakdown, crews remain with vehicles. The disabled vehicles are thus easier to find from air.

In driving on an azimuth, pick distant objects along the azimuth and steer on them.

Move rapidly over soft sand. Change gears before you get to it. Better to select a lower gear and shift up than to try a higher gear and shift lower when engine is about to stall.

At the close of a drill or of a march, all vehicles must be serviced and made ready to move out. Radiators should be cleaned and sand removed from the cooling fins on radial engines. This will be done under the direction of an officer.

In all movements across country, vehicles should be in dispersed formation. Constant practice is the only way of learning. After men have become accustomed to moving across country in task forces, roads may be used to some extent to avoid waste of rubber.

## TYPICAL TASK FORCE IN DISPERSED MARCH FORMATION

### DESCRIPTION OF TASK FORCE

A Task Force, comprising all of the elements of an armor division, is the smallest force depicted which normally should be used in a separate march formation. The largest would comprise half the combat command of an armored division or half the combat team of a motorized division.

Several such groups (task forces) may move abreast, the interval between them should not exceed visual contact. That is, the flanks of one should be apparent to the adjacent flank of the other. The minimum of non-fighting vehicles accompany each group. The vehicles carry one day's refill of oil and water, fuel, ammunition, and rations. It is desirable that kitchens form part of this train so that the men may get one or two regular meals daily. Tactical conditions will frequently prevent the presence of these kitchens. Every effort must be made to get them up where humanly possible.

Intervals and distances, except as between vehicles will be changed in consonance with the ground conditions. The intervals and distances shown are illustrative only.

The diagrams in the text are not to be glanced at. They must be studied. Through studying them a great many words are saved.

**Reconnaissance Unit:** This unit is provided from the Reconnaissance Battalion of the division, or occasionally from the Corps Reconnaissance Battalion. It precedes the advance guard by from three to five hours. It reports on the half hour or on gaining contact with the enemy. It **MUST RETAIN CONTACT** and work around the hostile flanks to discover what is in the rear. It's primary mission is information, not fighting. **IT MUST HAVE TWO-WAY RADIO COMMUNICATIONS WITH AIR OBSERVATION UNITS.** Air observation should cover the entire perimeter of the march group at a distance of least twenty-five miles. This circumferential air reconnaissance need not be continuous, but should be repeated often enough to locate enemy at least ten miles away. In other words, in this desert, it takes from three to five hours to go twenty-five miles. Consequently, two-hourly reconnaissance must be more frequent or more distant. The last air reconnaissance before dark must be thorough.

Note: There is a tendency to have the reconnaissance elements too thick. It is better to use the minimum number of vehicles which can mutually see one another to cover the front than it is to use a great density of vehicles and have no reserve.

**Advance Guard:** Type A. This is composed of half tracks and quarter ton trucks, in the ratio of two quarter ton trucks to each half track. This advance guard precedes the leading elements of the main body by from one to one and a half miles. It's mission is to locate hidden enemy antitank units and artillery; and, in cooperation with the reconnaissance, to locate and report the contour of the hostile front. It should be equipped with radios on the same wave length as the reconnaissance. The advance guard must move rapidly. On the other hand, circumstances will arise when it is necessary to dismount and reconnoiter on foot. Such action will save both time and casualties. When dismounted reconnaissance entails undue delay, the column commander will be notified in order that he may halt the main body and not close on the advance guard.

Type B. This consists of a line of light tanks completely across and slightly overlapping the front of the main body. These tanks should be at visual intervals and should be assisted by two quarter ton trucks per tank. These tanks must have radios and be in radio communications with the reconnaissance and with the main body. The use of tanks as the advance guard is particularly desirable against hostile infantry delaying action.

**Tank Destroyers:** The diagram shows tank destroyer units abreast of the leading tanks of the main body, covered on their outer flanks by their own security vehicles. The purpose of placing them here is to prevent incursions of hostile tanks, and to give a point of maneuver about which tanks of the main body can operate. Note further, that one element of a tank destroyer unit is with the trains. The purpose of this tank destroyer unit is to afford protection to the trains. It is aided in this by a proportion of light tanks and Anti-Aircraft Artillery.

**Anti-Air Defense:** The diagram shows certain AA units with combat vehicles and the remainder with the trains. Defense of the trains is the particular and vital mission of the antiaircraft artillery. It provides the main fighting escort for the trains, and should be weaponed with dual purpose cannon on self propelled mounts of great cross country ability. If the number of anti-air vehicles is limited, they should be with the trains because armored vehicles of a Task Force do not present a lucrative target. The trains, however, being supposedly unprotected, are the constant target of hostile aviation and armored patrols. The antiaircraft vehicles with armored units must have their weapons on self propelled mounts and these weapons must be dual purpose of at least 37mm caliber in order that they may not only prevent bombardment but also aid other elements with the trains in driving off hostile tank attacks.

Owing to the dispersed formation of the trains, it is obvious that high altitude bombardment will not be very effective. Hence, if the enemy seeks to destroy the trains he will execute bombardment at a low altitude or by diving. Under such circumstances, 50 caliber weapons are highly effective. Therefore, each dual purpose antiaircraft, antitank cannon mounted on a self propelled vehicle should in addition have a pair of 50 caliber antiaircraft machine guns on the same vehicle.

**The Remaining Vehicles of the Main Body:** The remaining vehicles of the main body, i.e., tanks, artillery, infantry carriers, and engineers, are so grouped that they can go into attack formation immediately either to the front or to one or the other flanks. If more time is available (than in an emergency), the change of direct is effected by a turn. In general, the theory is for the tanks to lead so that the infantry and artillery, moving in the center, can go into action in any direction.

**Trains:** These follow the main body by some one and a half to three miles. Their contents have been specified. When combat opens they close to a mile to half a mile in order to be able to immediately resupply ammunition and fuel.

**Roads:** The success or failure of any operation will usually hinge on the ability of supply columns to reach the fighting units with refills of ammunition, water, and fuel. In desert or other roadless terrain, the sustaining speed of an advance will be restricted by the time required for supply columns to negotiate the area between railheads and ports, and the fighting front. The provision of supply roads will extend the operating radius of any force, by increasing the speed of supply columns, and reducing vehicle maintenance, thereby increasing in two ways the tonnage of supplies which can be moved in a given time by the available vehicles before a refill becomes necessary. From the diagram, it will be noticed that a road construction unit follows the train. This



will be noticed that a road construction unit follows the train. This is so composed that it can build one or more well marked supply roads at the speed of any normal advance. Most of the equipment is drawn by reserve tanks.

**Trailers:** In addition to the ammunition and fuel carried in the supply trains, it is believed that one or more trailers per platoon for all types of armored vehicles in the task force should be used in a manner similar to the caisson with Field Artillery. These trailers are of cheap construction, are small arms bullet proof and can be uncoupled readily when they have been emptied. They can be recovered by the trains. Through their use, an adequate supply of ammunition and fuel can be assured during an attack.

## OPERATIONS OF A TASK FORCE

**Thrust Line:** A thrust line is a reference line drawn in the general direction of the proposed operation. It need not be axial and need not be a right line. It must have an origin. The thrust line is marked off with quarter inch spaces; each tenth space is numbered. In order to orient any unit, it is only necessary for the unit commander to place a right triangle with a quarter inch scale against the thrust line and his position; then count the number of quarter inches he is away. If he is on the right side of the line and opposite the twelfth dot, and three quarter inches away he reports his position as twelve right three (12R3). Similarly, if he is opposite fifteen, and two and a half inches out, he reports his position as fifteen left ten (15L10). The same procedure can be used in a retrograde movement, the origin and right and left always remaining the same. In order to confuse the enemy, the second day, the origin of the thrust line can be stated as forty. Then the original position of ten out would be fifty out, and so on.

**Phase Line:** Using the thrust line as a basis, phase lines may be inserted. These phase lines are for the purpose of coordinating the movement. The first phase line should be sufficiently far from the bivouac so that the rearmost elements in the march group have moved for at least twenty minutes before the head reaches the first phase line. Thereafter, phase lines should be approximately every two hours of march. They halt on the phase line should be for thirty minutes. During these halts all crew members except the anti-aircraft gunner dismounts. The observers dismount but continue their duties. During the halt, the first thing to do is to execute first echelon maintenance under the immediate supervision of the officer present.

**Lateral Communication and Control During March:** This is of great importance, both between element of a march group and between march groups. It can be executed either by radio or by liaison planes, or a combination of the two. During a march, the rate of movement must be governed from rear to front, to prevent undue elongation; that is, the reconnaissance guides on the advance guard and so on. Special emphasis must be placed on having the trains maintain their distance. If necessary, halts on phase lines will be prolonged in order to close up.

During the training period, particularly, liaison planes are vital to obtain results. The difference in speed on the desert between a column and an individual vehicle is so small that a commander on the ground cannot maintain touch with his units. He must do so from the air. The larger liaison planes have two-way radio, the Cubs do not. If only Cubs are available, it is necessary to utilize dropped message.

**Guides:** Guides from the main body with marker flags should accompany the elements of the reconnaissance unit preceding that portion of the main body. These guides are dropped off when

the going gets bad or when there is any doubt as to the road being used. They are picked up by the main body.

**Command From Air:** It is my opinion that the force commander can exercise command from the air in a liaison plane by the use of two-way radio. He should remain in the plane until contact (with the enemy) is gained, after which one of his staff officers should be in the plane and he himself on the ground to lead the attack.

**Full Track Company Maintenance Vehicles:** Owing to the fact that a half track is slower than a tank in the desert, it is desirable that a company maintenance vehicle be a full track vehicle, so that having halted to make repairs, it has the capacity to catch up. A half track can never catch up after it's first halt. This full track vehicle will also be used for battlefield recovery.

**Servicing:** Immediately upon halting at the close of each day's march, or maneuver, all vehicles will be serviced; filled with gas, oil, and water, and have three day class "C" rations, and three day's water on board. In addition, it is requisite that at least one day's additional water for the men and vehicles be in the vehicle.

**Refueling:** Normally, refueling takes place just before entering bivouac. If, however, the length of the march demand earlier refueling, where ever refueling takes place, arrangements are made. All antitank weapons and anti-aircraft weapons with the command are put into position of "Alert," and by pre-arrangement with the air force, an "Umbrella" of pursuit aviation remains over the command during the period of refueling. Units and vehicles remain dispersed during refueling. The trucks with the fuel move by, drop the cans, and later pick up the empties.

**Reconnaissance:** In reporting contact (with the enemy), reconnaissance units must locate themselves with reference to thrust lines, and locate enemy reported by reference to the same thrust line. Otherwise, the reports are useless.

**Radio Silence:** Where the situation indicates that the column is not observed by hostile air, radio silence will be enforced. Radio silence means that no messages are sent. It does not mean that the system is closed. All operators must continue to listen in. Even during radio silence, reconnaissance or any other units making contact will report by radio.

**Rule for Using Voice Radio:** If the period of reaction by the enemy, as a result of overhearing the message cannot influence the period of action of our forces, voice radio IN CLEAR will be used. Example, if attack is ordered for eleven o'clock and the order issued at nine o'clock, and it is known that it will take the enemy at least three hours to react, it is perfectly justifiable to give the order in the clear. If, however, the order is issued at nine o'clock for an attack at four o'clock, and you know the period of reaction of the enemy is three hours, clear radio should not be used.

**Axis of Assembly:** An axis of assembly will be laid down for each March Group. In unmapped desert, it will be an azimuth from a definite point of origin. Where maps or landmarks exist, they will be used to define the Axis.

The purpose of this Axis of Assembly is to provide a line to which walking wounded can move, or where reports of disabled vehicles can be sent. Finally, it gives a definite line on which a reassembly of the unit can be ordered.

**Security During March:** A definite routine procedure must be adopted to insure that all strange vehicles, not part of the march group, are challenged and examined upon approaching or leaving the group. The enemy often employs captured vehicles with crews in captured uniforms to enter columns from the rear or flanks for reconnaissance.

## ATTACK FORMATION

Since marching is a science, it is susceptible of more or less dogmatic treatment. Battle, on the other hand, is an art. Hence, he who tries to define it closely is a fool.

Nonetheless, in armored combat in desert country, the situations move so fast that there should be an almost drill-like method for converting a march formation into one for attack.

In considering movement from a march column, we must remember that unless we are inexcusably surprised, many hours have elapsed since the air first located and reported the enemy. During this time the ground reconnaissance and the advance guard have both had ample opportunity to determine the contour of the hostile front and to locate his artillery, antitank guns, and mine fields. Exact information on these points is vital.

Further, it must be remembered that our force will consist of several march groups. The march formation must flow smoothly, without halting, into the battle formation, and the transition must be completed while the enemy is still some 3000 yards away. While this transition is taking place, our air must be attacking the enemy, especially his artillery, antitank guns, and close-in trains. In these attacks, the air is acting on its own, picking those targets which it can see. Furthermore, it is learning the terrain so that in the final phase the air attack will have a better chance of functioning. During this phase the reconnaissance and advance guard have cleared the front and are acting as ordered by the higher command always remembering that they must never lose a chance of hurting the enemy. Siting on a tank watching the show is fatuous, killing wins wars.

From the standing procedure, it appears that initially only four-ninths of the tanks moving into the first firing position (turret defilade wherever practicable), engage the enemy from a staggered line formation.

Under the cover of this fire, probably opened at 2000 yards, the artillery moves up and enters the fire fight. All this fire is concentrated on the enemy's artillery and antitank guns. The leading elements of the tank destroyer units, from their positions on the flank, also engage in the fire fight with the same targets. If it is certain that your own rear is not in danger, the tanks which have heretofore been guarding the trains have meanwhile joined the reserve tank units.

When sufficient dust and smoke have been developed or a partial fire superiority gained, the leading tanks advance to a nearer firing position. This move is accomplished by rushes of some of the tanks under the supporting fire of the remaining tanks, the artillery, and the tank destroyers. The new firing position is selected by the unit commanders through personal reconnaissance in their tanks. The first rush should be for at least 500 yards. Whether the artillery displaces forward with each rush made by the tanks depends on the observation they can secure. But, certainly as the battle nears its climax, the artillery must be in line with the tanks.

By a number of successive rushes, as described, the line is advanced to a point between one thousand and five hundred yards from the enemy. Sometime during this advance the support tanks

of the leading units have joined the firing line, thus placing two-thirds of the tanks in the frontal attack.

As the fight progresses, and the dust could prevent observation, the reserve tank unit should move out to encircle the enemy and attack him from the rear. When it is in position to make this attack, it should signal the force commander so that a synchronized assault may be executed.

Prior to this time, the air should have been notified of the probable time of the final attack. This information must be given sufficiently in advance to enable them to load with the proper type of bombs and to be ready to take off. A few minutes before they are over our force, they should notify the force commander by radio. On the receipt of this message, the fronts of our main assault and encircling force are outlined by clouds of specially colored smoke produced either by grenades or by artillery. This smoke gives the air a datum line as they are then able with safety to attack the narrow zone of the enemy front between the two lines of smoke. It is to be remembered that prior to this they have been attacking the enemy and should therefore know approximately where he is.

There are other possible methods of coordinating the bombardment attack with the ground attack in this mobile situation. By pre-arrangement, observation aviation using successive sorties in situations where enemy pursuit is active, maintains contact with the enemy and leads bombardment aviation to the target upon order from the force commander.

Another system utilizing Krypton light contemplates bombardment aviation proceeding to the battle upon orders from the force commander, who must anticipate in conference with the Ground Air Support Commander that a proper target will exist when the bombardment arrives. When the bombardment aviation arrives within radio range (about 20 miles) of the Ground, Air Support Control station it is given the description of the target and its azimuth and estimated distance from the location of the Krypton light. When within visible range of this light, the bombardment, using the light as a reference point, proceeds to the attack. This system should be advantageous in terrain that has few well defined landmarks or when maps are unavailable or imperfect.

As soon as the air attack is completed, the final assault from the front and rear is ordered. In this assault the tanks move rapidly forward to close with the enemy, while the enveloping tanks attack him from the rear. The armored infantry, moving in their carriers, follow the tanks until they are forced to dismount by hostile fire, and then rushing forward mop up and secure the spoils of victory. I repeat that the foregoing description is a great generalization. For example, in the situations where the enemy is covered by a minefield or we have been unable to locate and destroy his guns the infantry will attack first supported by the fire of all guns, Tank, Artillery, Tank Destroyer, Dual Purpose Anti-Aircraft, and by the Air Force.

Again, it must be remembered that in a larger scale battle than that shown, one or more task forces will make the rear attack.

To go into further discussion here is futile; for as has been said, battle is an art and the commander, the artist, must paint his own picture.

**The following points apply particularly to the phase of instruction just completed**

All problems must be first solved on a sand table. At the close of a problem, and when secrecy permits, at the beginning of the problem, the men must be informed of what they have done or what they are expected to do. This is a vital requirement.

Upon entering new terrain, have all gunners estimate ranges, because the lighting conditions materially affect their ability to estimate correctly.

Orders must be mission orders, that is, you must get your people together and tell them the general situation and what you expect them to do. The order itself should not be more than one page, with a map on the back containing the axis of assembly and the thrust line, and other pertinent information. If no orders are received the force continues to act on it's original mission, don't halt.

Tank crews should first be instructed by walking through the various formations with reduced intervals and distances using flag signals. In armored battle, movement must be of the nature of a drill.

In armored warfare seek surprise as to time, direction, and formation of attack.

Where circumstances permit, attack should be staged so as to have the sun in the enemy's eyes.

Tanks do not attack until hostile artillery and tank destroyers have been destroyed or neutralized and mine fields cleared.

Tanks entering a fire fight should place themselves at an angle to the direction of hostile fire, so as to increase the probability of glancing hits from the enemy.

Tank crew members and tank destroyer members must track all hostile vehicles within sight during maneuvers.

Tanks, in resuming the advance from a halt, always do so with a change in direction by at least 45 degrees. When making a rush, tanks should similarly do so by tacking, that is, by changing direction about 45 degrees at frequent intervals.

During battle, tanks must report their location, and what successes they have had.

Tank crews are responsible for reporting to the maintenance with the position of injured tanks. Experiments should be tried to do this by flag signal or by Very Light pistol signal. The company commander must see that injured tanks are reported and evacuated.

Tanks should not attempt to physically crush with their tracks enemy guns or machine guns because of the danger of grenades and mines. They should destroy them with intense fire at from two to three hundred yards.

Artillery must be placed in depth, not only by battalions, but by battery. No guns should be within 75 yards of any other gun, and right lines in formation must be avoided.

Tank destroyers and artillery must be prepared to exercise dual roles. That is, in the opening of a fire fight, they must be prepared to fire as artillery normally fires. In the final stages, the artillery

must close up and fire by individual guns after the manner of tank destroyers. To attain this, special instruction to tank destroyers and to artillery is requisite.

Fire should be low instead of high. Shoot the tracks from under enemy vehicles and use ricochet fire at his guns. The fragments come under the gun shields.

Do not fire at extreme ranges when attack or pursuit. It is useless and wastes ammunition.

Impress on artillery, tanks destroyers, and machine gunners that concealment is not cover, bushes do not stop bullets. Always seek a position which gives ground defilade as far as it is possible to obtain it.

Artillery with armored units must have forward observation, in tanks, in radio connection with the artillery. It should further have liaison planes to adjust fire. The forward observation tanks are usually placed on the flank well forward where they can see around the smoke clouds.

It is highly desirable for larger caliber dual purpose antiaircraft guns to have high powered telescopes, probably of eight power in addition to those of normal power. This permits them to pick out targets with considerable accuracy at long range.

Armored infantry must drive into action and remain in their vehicles until effective hostile fire forces them to dismount. To do otherwise fails to use their mobility. Owing to the fact that tanks can always cover the withdrawal of armored infantry, it is not necessary for armored infantry to worry about a reserve. They must attack with great violence.

Use your machine guns as soon as they come in range. They are very discouraging to artillery and antitank personnel as well as to infantry. They must be used. There is too much of a tendency to forget their deadly effectiveness.

Infantry, machine guns, and heavy weapons should attack tank destroyers and artillery whenever they get into range.

The air force should be informed of the color of the smoke which is put out, just prior to the final attack, so that they will not be confused with colored smoke set off by the enemy.

During maneuvers and marches, at least air and one ground attack should be signaled daily to accustom the men to carrying out instruction.

A sketchy smoke screen rapidly put down is better than a good one which is put down too late.

It is believed that all vehicles in the reconnaissance units should carry a 37mm mounted coaxially with a 30 caliber machine gun. This will permit them to fight.

You should expect to find mines in all defiles and in front of all river crossings. Further, you should expect to find them in front of any position which the enemy has had time to organize.

Before entering a defile, crown the heights on each side, bring up the antiaircraft guns, emplace them, and see that the far end of the defile is clear.

On the defensive use your tanks as reserves, and do your fighting with artillery protected by infantry. The tanks are placed either on the most dangerous flank or covering gaps in the line. If you have plenty of tanks it may be advisable to place them on both flanks.

On the defense, riflemen and machine guns try to remain concealed from tanks and await the infantry which follows. If, however, they have means of attacking the tanks, they should do so.

When a battle is not decided in one day, it is best to withdraw at dusk and reform after dark, leaving in place some or all of the artillery supported by infantry to attack at dawn, from a new direction.

At the close of a battle, leave the field in the hands of your infantry and artillery, and pull out the tanks to refit and resupply, and then move them to a new position from which you can attack, should an attack be desirable.

When it is necessary to withdraw, do so in time. That is, you must withdraw to the next ridge in rear before the enemy can occupy your former position and fire on you while you are withdrawing. If this is not possible, an intermediate position must be occupied by a portion of your command to cover your withdrawal.

In withdrawing, move your supply vehicles to the rear as secretly as possible, preferably at night. It is then well to threaten or actually attack with some tanks to cover the withdrawal of the remaining tanks. The tanks making the attack should then withdraw to a concealed position or else withdraw passing other tanks in a concealed position. The tanks in the concealed positions cover the withdrawal of the guns and remaining tanks, and should the enemy be too courageous, strike them in the flank.

In all maneuvers, certain soldiers should be tagged as wounded in order to give practice to the Medical Department. These soldiers should be tagged by the unit commanders and not by the medical officer.

In small fights during a battle, where either we surprise the enemy or are surprised by him, part of the force should attack frontally and the remainder, on the authority of the officer present, must immediately initiate a rear attack.

Officers are responsible for the destruction of their own or enemy tanks found on the battlefield, which are so badly damaged that they cannot be readily evacuated by our troops.

In vital matters such as first contact with the enemy, do not trust the radio, even if you get a receipt. The message must also be sent by messenger. In any case, every radio message must be acknowledged.

Officers must be practiced using their radio, otherwise, they waste a lot of time clearing their throats and collecting their minds. It is best to write an oral radio message and read it over the radio rather than try to compose it. It also saves time.

## BIVOUACS

The same lack of cover and certainty of air attacks which caused the creation of special march and attack formations for the desert, requires the use of a special bivouac formation. Units must be trained to defend bivouacs by fire and counter attack.

A desert bivouac through limited and controlled dispersion must provide a poor air target, good defense against ground attacks, and a means of rapidly resuming the march or combat formation.

Prior to starting any operation, unit commanders will be shown their position within any bivouacs to be occupied during the operations.

The easiest way to form a bivouac is for the leading tanks on the right to form the right forward side. The leading tanks on the left to form the left forward side. The reserve tanks to form the right rear side and tank destroyers or artillery if no tank destroyers are present to form the left rear side. Where the task force consists of two battalions or more of tanks, the tanks themselves are sufficiently numerous to occupy the four sides. In this case, the artillery and tank destroyers occupy the positions within the area conforming to their position for the next march or combat. The advance guard forms a march outpost until the bivouac is made, then enters it.

The infantry carriers of the unit which formed the double sentry post are in rear of the perimeter, vehicles adjacent to their crews.

The half track patrols outside the infantry listening post should move on a prearranged time schedule so that all vehicles will not be moving at one time. They should be provided with very light pistols which they should fire at low elevations, at right angles to their line of patrol and away from the bivouac at unexpected intervals, with a view of catching any enemy who may be trying to sneak up.

Where possible, a staff officer should precede the command to the bivouac area and place a quarter ton truck with a flag at each of the four corners. This applies to occupation during the day. If the bivouac is occupied during the night, use an initial point at the center of the bivouac and move on azimuths and odometer reading to the four cardinal points. Vehicles, then, go on right or left into line as the situation demands.

All vehicles on the perimeter clamp their automatic weapons for grazing fire at 200 yards. The traverse of these weapons is limited by the use of a rope or traverse stops so that they will not hit adjacent vehicles.

Vehicles on the perimeter must be staggered so as not to present a line which can be attacked from the air.

Engines should not be operated or vehicles moved about in the bivouac during the night. All moving vehicles within the bivouac should be challenged by the guard. The enemy will often attempt to move captured tanks and trucks into bivouacs, disguised as stragglers.

When the trains come up, they enter the bivouac and immediately resupply the vehicles. The trains leave after dark. On reaching the road they move in column. By Pre-arrangement with the air force, pursuit aviation should form an umbrella over the bivouac during its formation and during the issuance of gasoline (if by day). Patrol protection is afforded at night.



Air observation will make a thorough reconnaissance of the whole perimeter of the bivouac just prior to dusk. If an enemy is located within striking distance of the bivouac, the ground commander is informed, and the commander of the reconnaissance unit will move out and make contact with the enemy, whose azimuth should have been reported to him from the air. For this purpose he will use his reverse vehicles.

Where night flying is possible and conditions are favorable for night observation, air reconnaissance and bombardment will visit the enemy during the night and take appropriate action to keep him disturbed. Also to notify the main body in case he moves.

**The following points are important with reference to the instruction just given**

It is important to practice moving in march formation in the dark by azimuth and also in bivouacking in the dark. Initially only small task forces should be used for this practice.

Until much practice is had, at least two hours should be allowed in training for getting into bivouac and refueling.

Where there are sufficient tanks to cover the perimeter of a bivouac the tank destroyers should be held in mobile reserve.

When going into bivouac all artillery, antiaircraft, and tank destroyer guns should be placed so that they can fire to cover the arrival of the trucks and resupply of gasoline.

While it is impossible to conceal vehicles, it is possible to use brush and camouflage nets to deceive the enemy as to the type of vehicle. Trucks can be made to look like tanks, and tanks like trucks.

In bivouac, all soldiers not carried in armored vehicles will construct slit trenches at right angles to the perimeter of the bivouac. These slit trenches will be filled in before moving out.

Upon arrival in bivouac, all weapons must be thoroughly cleaned and serviced. Care must be taken that all guns are not dismounted at the same time. Cleaning and servicing will be under the supervision of officers. Scotch tape placed over the muzzle of any weapon from a pistol to a cannon keeps out the dirt and the weapon can be fired without removing the tape.

First echelon vehicle maintenance will be started immediately upon arrival in bivouac, and will be thorough and supervised by all officers. Clean the dust from the fins of radial engines, otherwise it becomes baked into a sort of porcelain and prevents cooling. Before filling with gas or water, wipe the dust from funnels and nozzles.

Upon forming bivouacs, all vehicles must be headed in a prearranged direction which will facilitate moving out into march or battle formation. Direction of movement out of bivouac in case of a night attack must be prescribed before settling down for the night. Every must be supplied with a small funnel for filling canteens.

No light nor smoking are permitted in bivouac, except under cover wholly light proof.

No tents or cots will be taken. Mattresses will be reduced to a minimum of size, preferably a sleeping bag.

Cooking by vehicle or individual is accomplished by filling a can, frequently the container for the food being cooked, two-thirds full of gravel, saturating it with gasoline, and bonding three points on the circumference in with the fingers. When lighted, this provides an excellent stove that will burn from twenty minutes to half an hour and uses very little gasoline. Officers must supervise the men's eating. In very hot weather the men become so fatigued, they will neither cook their food nor eat it. It is up to the officers to see that they do, or the men will become useless. Cooking must be completed before dusk.

It is highly desirable that men be trained not to drink any water during the heat of the day. If a man takes one drink during the heat of the day, his resistance is reduced and he has to keep on drinking. The water he drinks does him no good as it is immediately perspired out. Men should be taught to drink all they can in the morning and after the sun goes down in the evening. Men should be cautioned not to smoke in the desert during the day, and they are not allowed to smoke after dark. They smoke in the dawn or in the twilight. Smoking during the day may remove the skin from the lips and always creates thirst. Hot coffee or hot tea is the best thing to start drinking in the evening.

After the meal has been prepared, everything which is not necessary for sleeping should be re-packed so that in case of a night alarm, nothing will be lost.

The water in the five gallon containers gets almost to the boiling point during the day. However, if it is put where the wind can get to it in the night, it will cool down and be palatable for drinking in the morning. It is best to take the canteens out of the covers, fill them and let them cool during the night. Then in the morning, drink from the containers and not from the canteens.

The reconnaissance elements do not come in, but form small all-round protective groups and remain in position. They refill from their supply vehicles which have accompanied them during the day, and then send the empty vehicles to join the supply train for replenishment. Normally, the supply train will send up full vehicles to the reconnaissance units as soon as it arrives near the main body. This method of supply is different from other supply and must be adapted to the existing situation.

One man per vehicle and one officer per company, battalion, regiment, etc., is always awake. No vehicle in the bivouac will be within 75 yards of any other vehicle. Where kitchens accompany the column, they remain in the bivouac and do not depart with the empty trains. Additional food for the kitchens is brought up with the next echelon of the trains to arrive about dawn (See supply).

**Forming Bivouac on Breaking Contact:** The location of the bivouac is given and the order of units to break contact and to withdraw to the bivouac area designated. The first unit to arrive at the bivouac area lays out the bivouac and posts guides to conduct the succeeding units to their location in the bivouac upon arrival. After bivouac is formed, the above stated doctrine applies. If it is probable that the enemy does not know our location, radio silence should go into effect at least two hours before entering the bivouac.

## SUPPLY

The way to success in desert operations, as in all other forms of war, hinges on supply. It will be noted from the diagram of the march that the supply train moves closely behind the march groups. This train carries one day's supply. Upon reaching the bivouac, or if it is intended to bivouac after dark, then just before dark the train should close up and refill the armored fighting vehicles. This refilling time should be prearranged so as to insure an umbrella of pursuit aviation over the formation during the time devoted to refueling, which should not take more than one hour. At the same time, special attention must be given to reconnaissance, by air and ground, and to see that all weapons, both ground and A.A. are ready to fire.

The question of supply of the second day's refill obtrudes itself. It is almost impossible to move trucks in dispersed formation at night, and it is also practically impossible to move them in columns at night without lights, except on a road. It is mandatory, therefore, to construct a road immediately following the column. (See Engineers Section Below).

The train which accompanied the force during the first day called train "A" having replenished the unit, moves out at dark along a supply road, and passes a similarly loaded train called train "B" during the night. Train "B" replaces Train "A" with the force. On the second day's march, this second train follows the Task Force as did "A" on the first day, and on the second night replenishes the Task Force. It then moves to the rear by the road, while "A," having been refilled at the base, moves up. It is probable that owing to the distance of the second bivouac from the base, possibly a hundred miles, that "A" must move out from the base before dark, and that "B" will not reach the base until after daylight.

During the third day's march, "A" again follows the Task Force and replenishes on the third evening, and then starts to the rear. Now, the distance has reached 150 miles or more so that a third train, called "C" must have left the base on the afternoon of the third day, and will pass "A" sometime during the night. "A" will not reach the base until well after daylight. This method of advance may be continued, but not to exceed 200 miles. A halt must be made, a good road or railroad constructed, and a new base formed. While this delays operations, it avoids disaster.

## MISCELLANEOUS

### ENGINEERS GENERAL

The chief role of engineers in desert operations is the same as in any other operations, to assist the movement of the fighting units, and to impede the movement of hostile units. The chief duties of engineer troops will be:

- a. Water supply.
- b. Roads.
- c. Minefields.
- d. Demolition.
- e. Camouflage.
- f. (exceptionally) Field Fortifications.
- g. Maps.

**Water Supply:** All desert operations revolve around water supply. Engineers dig and drill wells, operate the necessary pumps, lay and operate pipelines, construct and operate water storage points,

purify and distill water, transport water from water heads to forward water distributing points, and control the issue of water to unit trains at such forward DP's. In desert operations water supply ranks in importance with ammunition and fuel supply. It is essential that all commanders assist the water supply units (of whom there will seldom be enough), by enforcing the strictest water discipline. Frequent problems should be held in which strict water discipline is involved.

**Roads:** In the American desert, supply columns cannot operate without roads at night, and only with difficulty by day. In the deserts where the ground is harder, the provisions of roads will allow more round trips in a given time, with less wear and tear on supply vehicles. Each combat group should have an engineer road pioneering team, composed of plow-dozers, drags, pull-graders, and motor patrols, capable of building roads at speeds up to six miles per hour, to take supply columns traveling at twenty miles per hour by or ten miles per hour at night. In soft going, the road is dug out, by removal of the softer surface materials. In normal going, vegetation and hummocks are leveled off, and washes are filled in and their banks cut down. On rocky terrain, loose rocks are removed, and rock projections are knocked down by jack hammers and occasional explosives. In gravelly terrain with large quantities of loose rock, the larger rocks dug up by equipment will have to be removed by hand.

The supply roads should not be straight or composed of small curves. They should be laid out in long tangents, so that hostile aircraft will have difficulty in following them at night, at the speeds at which they operate. Dummy roads should be constructed at all changes of directions, so that the real road appears to be a side road. Supply roads should not usually be built any closer than three miles to the bivouac area of a combat group; the last tangent should never point toward the bivouac.

**Minefields:** Engineers must be the experts on minefields, both our own and those of the enemy. Engineers must be thoroughly trained in the details of enemy mines and booby-traps, from the point of view of both material and technique.

Minefield reconnaissance and clearing paths through enemy minefields in preparation for an attack is done by divisional engineers, usually at night or during dust storms. If required to clear paths during a day attack, the engineers must be given an intense smoke or dust screen to cover the operation, preceded by heavy artillery fire on the minefield to provide shellholes for cover.

Laying and lifting friendly minefields may devolve upon Corps and Army Engineer troops as well as Divisional engineers. Constant practice is essential to provide rapid and effective work, and to insure that all fields are adequately recorded so that they will not be a menace to friendly forces.

**Demolitions:** Engineer demolition activities in desert operations differ little from those in normal terrain. Particular training should be given in demolition of water sources, railroads, roads, ports, utilities (power plants, bakeries, machine shops), and large supply dumps.

Small mobile engineer tank demolition detachments should accompany tank units into battle, to demolish disabled enemy tanks beyond possibility of recovery. Such detachments do not destroy our own disabled tanks except on authority of the local commander.

**Camouflage:** Camouflage in desert operations is more a matter of deception than hiding. Division engineers are responsible for training and supervising the fighting units in camouflage technique and camouflage discipline. They are not equipped to do any extensive camouflage work; this is the

responsibility of all commanders. Camouflage units will be engaged on schemes for large scale deception, such as dummy tank units, dummy supply points and railheads, supply of sunscreens (to make tanks look like truck, guns look like cargo trailers, light trucks to look like tanks, etc.). Such large schemes must be included in the large plan of operations from its inception or the work of the camouflage troops will be ineffective.

**Field Fortifications:** Because of the nature of the terrain, and particularly in the case of armored forces, field fortifications will not have the importance in desert operations that they have in more normal terrain. Nevertheless, skillful use of field fortifications will always increase the effectiveness of a force on the tactical defensive, and help the commander build up his principle striking mass or counter attacking force. The engineers assist fighting units by giving constant advice on the latest types of emplacements, obstacles, trenches, and dugouts and by constructing rear defensive positions.

**Maps:** Engineers revise and reproduce maps and are responsible for map supply in the field. All commanders must cooperate by closely controlling the use of maps in their organizations, and collection all maps and turning them in to the unit engineer headquarters when relieved from an area.

**Health Measures and First Aid:** Desert warfare presents problems that are not encountered in any other type of combat. Instructions as issued from time to time by Desert Training Center Surgeon will be enforced by unit commanders under supervision of unit medical officers. Military personnel are cautioned to use common sense in the extreme heat of this section and to attempt to hold casualties from heat prostration to a minimum. Avoid unnecessary exposures to the sun, keeping the head and body covered at all times during the heat of the day. Men will not be permitted to strip to the waist.

Salt must be taken to replace that lost through excessive perspiration. Food should be salted freely and salt tablets taken. Extra salt does no harm. Additional salt should be taken after vomiting, diarrhea, in cases of loss of appetite, or an "all in" feeling due to heat. The amount of salt to be taken depends on the temperature, activity of the individual, and the amount of perspiration. It must be remembered that, due to low humidity, perspiration is more excessive than it appears to be because of rapid evaporation. A guide as to the amount of salt to be taken is about 15 grains for each quart of water or other liquid consumed. The need of salt is not a theory, but a proven fact.

All troops in desert operations must be trained thoroughly in first aid and in the proper use of the vehicular first aid kit.

Badly wounded men must be reported by radio through unit Radio Net or by signal to supporting medical troops for further medical care and evacuation.

#### ADDITIONAL PRECAUTIONS

Do not wear tight clothes, shoes that are too small or leggings that bind.

Do not eat large heavy meals.

Eat food sparingly during the heat of the day.

Fruits and vegetables, preferably cooked, and fruit juices are the best types of food.

It must be realized that in the desert distances are deceptive, mirages a possibility, general assistance from other sources is lacking, and water, other than that carried on the person or in the vehicle, is not available.

If lost do not panic and do not attempt to walk for help during the heat of the day.

Vehicles or persons on feet in the desert must always travel in pairs and not alone.

Guard against injury to the eyes. Wear goggles while riding in open vehicles over desert areas.

Be on the lookout for snakes. They become active when it gets cool. Be particularly careful when reaching for an object on the ground, especially when it is dark.

If bitten by a snake, use the snake bite kit according to directions in the container.

In any event, use common sense and DO NOT PANIC.

#### WATER

The training to be accomplished depends to a large extent upon the physical endurance of the troops operating under desert conditions with a limited water supply.

No vehicle will ever be dispatched into the desert areas without at least two gallons of water per individual in addition to that contained in canteens. One gallon of this water is for current day's use and the other for reserve.

## NOTES ON THE DESIRABILITY OF UNIVERSAL SERVICE

Colonel George S. Patton, Jr.,  
Tank Corps

May 27, 1919

It is the common experience of mankind that in moments of great excitement the conscious mental processes of the brain no longer operate. All actions are subconscious; the result of habits. Troops whose training and discipline depend on conscious thought become helpless crowds in battle. To send forth such men is murder.

Hence, in creating an Army, we must strive at the production of soldiers, so trained that in the midst of battle they will still function.

To illustrate the point at issue; remember the first time you tried to stop your car in a pinch? You knew exactly what to do, and had your brain worked, you could have done it, but the sight of that toddling child in front of you, or the shriek of that klaxon in your car, froze your reasoning powers. Did you do the things you should have done? You did not! You jumbled and fumbled and either had an accident or were saved by the direct interposition of Providence. Shells sound far worse than klaxons.

At the end of three months driving you had mastered your car. Your acts in all cases were the result of habit; automatic. Why cannot the soldier arrive at the same state in a like time? Because, instead of being subjected to the nerve racking sight of one child, the sound of one horn, he is in the midst of thousands of shells and hundreds of corpses. Further, you in your car have to do two or three things, always the same; he has to do many things, always the same in principle, perhaps, but always infinitely more difficult in practice. You are warm and well fed and up to the time of the emergency, in normal condition. He is tired, in a strange environment, hungry, and for days has been working himself up more or less to a nervous state in the expectation of battle and possible death. The training which will produce habit that will operate under such circumstances must assuredly be longer and more intense than the practice necessary to you as a motorist.

There is another question to consider; that of absorption, so to speak. When you were a child you learned the multiplication table and discovered that " $1 \times 5 = 5$ "; " $3 \times 5 = 15$ "; etc. In solving problems you eventually reached the point where, by the use of check marks on your slate or computation on your fingers, you could ascertain that " $5 \times 7 = 35$ "; but it was years later, perhaps not until you were in business, that you knew instinctively and without mental process that " $5 \times 7 = 35$ " because it was.

So with the soldier. He may learn his multifarious duties in three or four months. By thoughtful effort he can properly perform them, but it takes innumerable repetitions, or soaking in the idea for a long time, at least a year, before he can perform them without thought. Since he cannot think in the midst of battle he is worthless as a soldier until he has reached this state.

Here we may mention a fact almost invariably misunderstood with respect to the salute. The salute, in the first instance, is the mark of brotherhood, the cryptic handshake exchanged between members of the most patriotic of societies; the Army. But it has another and equally important effect. All people have an innate distaste to being directed. The military salute acts like the hole in the dike, letting the necessary flood of subordination stream through.

When at the beginning of the football season the quarterback barks his numbers at the crouching players he excites this same innate opposition; the feeling of “Why in Hell should I do what he says?” Yet, until this feeling is banished by habit, the team is dead on it's feet. The soldier at attention, saluting, is putting himself in the same frame of mind as the player; alert, on his toes, receptive. In battle, the officers are the quarterbacks, the men the disciplined team on their toes, with that lightning response to orders which means victory, and the lack of which means death and defeat, which is worse than death.

Now we come to the greatest of all reasons for universal service; namely, the fact that it makes patriots.

The man who finds twenty dollars on the street or wins it at the slot machine thinks lightly of it, and before long it is as lightly spent. But, the man who works and sweats for half a week for that same amount respects it and grudgingly parts with it when he has won it. So with patriotism. The light feelings of love and reverence for our country engendered by shouting for the flag on the 4th of July are too haphazard; too cheap. The man who has served a year with sweat and some discomfort feels that, truly, he has a part in his country; that of a truth, it is his, and he is a patriot.

Further, the boy who lives at home has little or no respect for elders or equals. He stands in his parents' shoes and is careless of the rights of others. Liberty to him is license. The boy who has lived in barracks has stood on his own feet and has gained consideration and courtesy, and acknowledges that liberty means equality for all, not license for one. His first valuable lesson in consideration was probably obtained when he disturbed the slumbers of his sleeping comrades by noisily entering the squad room after taps. The lesson was probably a volley of well aimed shoes.

At the end of his year of service, the boy emerges a man; courteous, considerate, healthy, and moral. To get these results in a democratic way, service must be absolutely universal. There is some phase in the vast mechanism of the Army where all may serve; the lame, the halt, the weak, and even the blind. Exemptions are the source of all evils in universal service and surely result in the cry of “your money for my blood.”

The boy of eighteen or nineteen is not a business asset. He is a liability. The year he serves his country and renders it great and sound, while making himself a thoughtful, patriotic, manly man with as much as five years added to his future life, can only be looked upon as a year well spent.



## THE OBLIGATION OF BEING AN OFFICER

By Colonel George S. Patton, Jr.,  
Tank Corps

October 1, 1919

Does it not occur to you gentlemen that we, as officers of the Army, are not only members of the oldest of honorable professions, but are also the modern representatives of the demigods and heroes of antiquity?

Back of us stretches a line of men whose acts of valor, of self sacrifice, and of service have been the theme of song and story since long before recorded history began. Our professional ancestors were sung of by the blind poet Homer a thousand years before Christ. The exploits of these ancestors were chanted by him and other exploits of like nature were handed down by word of mouth or in everlasting marble to the time when they might be recorded in writing for the eternal inspiration of the race.

In the days of chivalry, the golden age of our profession, knights(officers) were noted as well for courtesy and being gentle benefactors of the weak and oppressed. From their acts of courtesy and benevolence was derived the word, now pronounced as one, "gentle man." We, too, are officers and gentlemen. Let us strive to live up to the high ideals of our military forbears. Let us be gentle. That is courteous and considerate for the rights of others. Let us be men. That is fearless and untiring in doing our duty as we see it.

In calling this matter to your attention I am not actuated by a spirit of criticism; so far as I know you are all officers and gentlemen. I simply desire to make articulate our obligations and duties in the above connection as they appear to me.

As I have pointed out, our calling is most ancient and like all other old things it has amassed through the ages certain customs and traditions which decorate and ennoble it; which render beautiful the otherwise prosaic occupation of being professional men-at-arms; Killers.

For ease of remembering them, these traditions may be subdivided into two parts. By dissecting the qualifying word "gentleman" which is ever associated with the word "officer."

Under the first half of the word "gentle" are collected a number of usages generally called "social customs of the service." These have to do with our social relations with our brother officers and also with our civilian friends. Some of the common and most frequently neglected are the following.

**Calls:** Officers arriving at a new post should call within twenty four hours on the commanding officer. In doing this they should consult the adjutant and call on him either in his office or at his quarters as the adjutant advises. They should also call on their Regimental, Battalion, and Company Commanders. If the latter have families living on the post, the officers should call socially on them in the evening and if he is married should bring his wife with him when calling on officers also married.

All officers should call on newly arrived officers as soon as convenient.

Officers receiving calls should return them within one week. Officers who have been invited to dinners, receptions, or card parties should call on the officer so inviting them; whether they accept the invitation or not.

All officers of a battalion should call in a body on the Commanding Officer of the regiment and of the post on New Year's Day.

**Invitations:** Officers should answer invitations promptly and state definitely whether they will accept or not. In answering invitations, they should use the same "person" as that in which the invitation is written.

**Messes:** Officers should behave in as polite a manner at mess as they would if dining at home with the ladies of their family. They should not tell smutty stories, or swear, or pick their teeth. Above all, it is the height of bad manners to refer to any lady by name at mess. They should go to some trouble and reasonable expense to make the mess table and mess room neat and attractive. The neglect of this is a great fault in our service and lays us open to constant criticism by foreign officers and by civilians in our own country.

**Quarters:** Officers should live in a neat way. Their rooms should be attractive and not look like the cells in an insane asylum. By the purchase of a chair or two, a couple of pictures or prints, a rug and some pretty covering for their beds they can for a few dollars vastly improve the appearance of even the worst quarters. The assembly room in the quarters here should be fixed up far better than is at present the case; a slight subscript on the part of all would make this easy. Officers should no more come into such a room half clad and untidy than they should enter a civilian club in the same costume. Attention to the above details will add greatly to the comfort and self respect of all.

**Gossip:** Gentlemen do not gossip. It never does any good and is unfair. Many men who would never think of hitting a man from behind will nevertheless strike a deadly blow at his character from behind his back. This is not usually the result of vice, but simply through a desire to tell a good story. It is the lowest form of sin no matter what cause prompts it.

**Growling and Criticism:** The man who always whines about what he has to do usually is incapable of doing anything. The man who criticizes his superior in the presence of soldiers or junior officers is disloyal to his oath as an officer and is doing more than a Bolshevnik to destroy discipline.

**Drinking:** The "old army" had many vices, but among it's virtues there is not one more worthy to be copied than the custom of never taking a drink when on duty, or when about to enter any duty. Officers of different grades should not drink in company. There is nothing like drink to produce familiarity. Familiarity breeds contempt. Do not drink at all or if you do, do it among your equals in rank.

**Money Matters:** Too much emphasis cannot be laid on the sacred nature of Government Money. Regard as inviolate the physical money. If you have to carry pay for a man, or company, or other funds, keep it in a sealed envelope in a separate pocket. Never use it with the idea of replacing it "as soon as you cash a check." That is the direct road to a General Courts Martial.

Do not contract debts. If you must borrow money go to a bank; that is the bank's business and it will see that you pay. If by any change you have borrowed money from an officer, don't forget all about it. He won't. To go on leave or to spend money unnecessarily in any other way while you are in debt to a friend is another sin. Pay cash and you will keep out of debt. Nearly all General Courts Martials come from fooling with credit and government money.

**Military Courtesy:** It is as necessary that officers salute each other as it is that soldiers salute them; or that they return the salute of soldiers. Never salute with the hands in the pocket, or with a pipe in the mouth, or as is a habit, with a toothpick in the mouth. Toothpicks, like toothbrushes, are for private use. To sport one in the mouth in public smacks very much of the idea that the officer so doing is proud of being able to have bought a meal.

If a superior enters a room where you are, offer him a chair. He will not accept it, but the act is one of courtesy showing respect for his rank. When talking to a superior no matter how friendly you are with him, stand at attention. And when you leave, salute. Also require the same of soldiers who are talking to you. Such acts show that you are a soldier, not simply a uniformed person.

**Promptness:** This is always referred to as a military virtue. But, like the buffalo, it appears to be heading toward extinction. Cultivate it; it will get you ahead in peace and may save your life or the lives of your men in war.

**Example:** Follow the "Golden Rule." Do unto others as you would have them do unto you. Good Knights were an example to all time. So it is with a good officer. You have no idea how men watch you. If you stand up, so will they. If you curse, so will they. If you are habitually late, how can you in honor try men for following your example? You are a model, whether you like it or not, hence; be a good model.

**Dress:** You are paid to dress well at all times. This does not necessitate expense out of reason. The clothes brush, a little cleaning fluid, and the flat iron will make any uniform look good. The brush and polish will do the same for the boots and leggings. No one respects a tramp and soldiers will not respect a dirty officer. The rougher the work, especially in the field, the more inspiring to the men is the sight of a clean, well shaven officer.

**Education:** The British and American services at one time had an unenviable reputation in the realm of military information. This has been corrected of late but there is still room for improvement. Do you imagine that the successful broker spends his evenings studying the progress of the National League? Hardly. He studies the market. The man who only works during working hours is apt to keep right on at the same job or get a worse one. Few are born Napoleons, but any of us can be good company commanders if we study. When we are that, try for the battalion and so on; ultimately for four stars. Hence, read military history and books on tactics. I am making out a list of such which I will give to you and some of which we will study together. But I earnestly advise you all to read military subjects three and a half hours a week. How little that is; and the lack of the knowledge may cause the death of your men and the defeat of your outfit.

**Don'ts:** I will close this lecture with a few "don'ts" from Colonel J. A. Mosse's book, Officers Manual, which I recommend to all of you to read.

Don't tell what a "Heller" you are. Let people find it out.

Don't pretend to know too much or too little. A prig or a fool are alike unpopular.

Don't tell people what you paid for things and don't ask what they paid. It is not according to our customs as officers.

Don't speak ill of any man. If there is nothing good to say of him, keep still.

Don't just sit and think, or just sit. There is always something to do. For example, read about war.

Don't try to gain success by “pull” or accuse others of doing so. The man with the alleged pull usually has the goods, too.

So far as I know, the above remarks do not apply to anyone here, but we are none of us perfect. If the coat fits, put it on and try to correct the situation.

## PATTON'S POETRY

### THE FLY

O, sweet slight friend  
Who frolics free  
O'er cactus plain  
Or sandy lee,

No one can lonely  
Long remain  
While hearkening to  
Thy blithe refrain

When meal time comes  
Thy friendly face  
Is everywhere about  
The place.

You taste the coffee  
Eat oatmeal  
And from the cakes the  
Syrup steal.

And though we know that  
You have been  
On the hot turds  
In some latrine,

And while you sipped  
The dainties there  
You gathered germs in  
Your long hair,

To spread them  
Wantonly upon  
Each dainty meat  
Or new baked bun.

Still, we can't blame you  
For we know  
That all we eat  
To shit will go.

And after meals  
When we would feign  
Seek Morpheus' arms

From labor pain,

You gently break  
Our sweet repose  
By deftly fucking  
In our nose.

Our ears and mouths  
You then explore  
And leave there  
Pus from some old sore.

Then when at night  
You needs must sleep  
Onto our tented  
Roofs you creep.

And when the Witching  
Hour has come  
Your dainty farts  
Pervade the gloom,

While like the dews  
From heaven fall  
Your tiny turds  
So round and small.

And if in battle  
We should die  
Around us first  
Would swarm the fly.

You'd do your best  
To ease the pain  
And swarm around  
Each oozing vein.

Yes, in memoria to  
A friend  
A hundred thousand  
Eggs you'd lend.

And as through maggots  
Sent by you  
Our gruesome corpse  
More gruesome grew.

You'd swarm in myriads  
Feasting high

You'd hum our dirge  
You goddamned fly!

### THE TURDS OF THE SCOUTS

The scout sat in the cactus shade  
He labored mightily  
That he did try to take a shit  
Was very plain to see.

For days and weeks he'd ridden hard  
He'd eaten many a meal  
Yet every morn he waits in vain  
Some bowel movement to feel.

Now scouts by nature are so bad  
That long-imprisoned turds  
Must soon assume their parent's shape  
And too be evil birds.

The faces which in common folk  
Resembles pumpkin pies  
In scouts assumes a texture dark  
Yes, lives and breathes and sighs.

Now as the scout his labor pressed  
At last he seemed to feel  
A slimy thing crawl from his ass  
And purr against his heel.

He little recked, the hardy brute  
The suffering he did cause  
He did not pause to wipe his ass  
He just pulled up his drawers.

He jumped upon his sore backed horse  
And galloped fast away  
Oh! little heeded he or cared  
What his dying turd would say.

It lay and suffered in the heat  
Its limpid eyes rolled high  
And from its fast congealing gills  
Escaped a gentle sigh.

I came upon it suffering there  
I sobbed to see its pain

When the pale green fog my nostrils reached  
I held my nose in vain.

I dashed in agony away  
My pity turned to pain  
And as the sun dipped in the west  
It sighed and died again.

#### GOD OF BATTLES

From pride and foolish confidence,  
From every waking creed,  
From the dread fear of fearing,  
Protect us, Lord, and lead.

Great God, who, through the ages,  
Has braced the bloodstained hand,  
As Saturn, Jove, or Woden  
Has led our Warrior band.

Again we seek thy council,  
But not in cringing guise,  
We whine not for thy mercy,  
To slay; God make us wise.

For slaves who shun the issue  
Who do not ask thy aid,  
To Thee we trust our spirits,  
Our bodies, unafraid.

From doubt and fearsome bodings  
Still Thou our spirits guard,  
Make strong our souls to conquer.  
Give us the victory, Lord.

#### A SOLDIER'S BURIAL

Not midst the chanting of the Requiem Hymn,  
Nor with the solemn ritual of prayer,  
'Neath misty shadows from the oriel glass,  
And dreamy perfume of the incensed air  
Was he interred;

But in the subtle stillness after fight,  
And the half light between the night and the day,



We dragged his body all besmeared with mud,  
And dropped it, clod-like, back into the clay.

Yet who shall say that he was not content,  
Or missed the prayers, or drone of chanting choir,  
He who had heard all day the Battle Hymn  
Sung on all sides by a thousand throats of fire.

What painted glass can lovelier shadows cast  
Than those the evening skies shall ever shed,  
While, mingled with their light, Red Battle's Sun  
Completes in magic colors o'er our dead  
The flag for which they died?

### MARCHING IN MEXICO

The column winds on snakelike,  
Through blistering, treeless spaces;  
The hovering gray-black dust clouds  
Tint in ghoulis shades our faces.

The sweat of muddied bubbles,  
Trickles down the horses rumps;  
The saddles creak, the gunboats chafe,  
The swinging holster bumps.

At last the halt is sounded.  
The outpost trots away;  
The lines of tattered pup-tents rise —  
We've marched another day.

The rolling horses raise more dust,  
While from the copper skies  
Like vultures, stopping on the slain,  
Come multitudes of flies.

The irate cooks their rites perform  
Like pixies 'round the blaze,  
The smoking grease wood stings our eyes,  
Sun-scorched for countless days.

The sun dips past the western ridge,  
The thin dry air grows cold,  
We shiver through the freezing night,  
In one thin blanket rolled.

The night wind stirs the cactus,

And shifts the sand o'er all,  
The horses squeal, the sentries curse,  
The lean coyotes call.

## THE MOON AND THE DEAD

The road of the battle languished,  
The hate from the guns was still,  
While the moon rose up from a smoke cloud,  
And looked at the dead on the hill.

Pale was her face with anguish,  
Wet were her eyes with tears,  
As she gazed on the twisted corpses,  
Cut off in their earliest years.

Some were bit by the bullet,  
Some were kissed by the steel,  
Some were crushed by the cannon,  
But all were still, how still!

The smoke wreaths hung in the hollows,  
The blood stink rose in the air;  
And the moon looked down in pity,  
At the poor dead lying there.

Light of their childhood's wonder,  
Moon of their puppy love,  
Goal of their first ambition,  
She watched them from above.

Yet not with regret she mourned them,  
Fair slain on the field of strife,  
Fools only lament the hero,  
Who gives for faith his life.

She sighed for the lives extinguished,  
She wept for the loves that grieve,  
But she glowed with pride on seeing,  
That manhood still doth live.

The moon sailed on contented,  
Above the heaps of slain,  
For she saw that manhood liveth,  
And honor breathes again.

## ABSOLUTE WAR

Now in war we are confronted  
with conditions which are strange.  
If we accept them we will never  
win.  
Since by being realistic, as in  
mundane combats fistic,  
We will get a bloody nose and  
that's a sin.

To avoid such fell disaster, the  
result of fighting faster,  
We resort to fighting carefully and  
slow.  
We fill up terrestrial spaces with  
secure expensive bases  
To keep our tax rate high and  
death rate low.

But with sadness and with sorrow  
we discover to our horror  
That while we build, the enemy  
gets set.  
So despite our fine intentions to  
produce extensive pensions  
We haven't licked the dirty bastard  
yet.

For in war just as in loving, you  
must always keep on shoving  
Or you'll never get your just  
reward.  
For if you are dilatory in the search  
for lust and glory  
You are up shit creek and that's the  
truth, Oh! Lord.

So let us do real fighting, boring  
in and gouging, biting.  
Let's take a chance now that we  
have the ball.  
Let's forget those fine firm bases in  
the dreary shell raked spaces.  
Let's shoot the works and win! Yes,  
win it all!

## A SOLDIER'S PRAYER

God of our Father, who by land and sea has ever  
Led us on to victory, please continue your inspiring  
Guidance in this greatest of our conflicts.

Strengthen my soul so that the weakening instinct of  
Self preservation, which besets all of us in battle,  
Shall not blind me to my duty to my own manhood, to the  
Glory of my calling, and to my responsibility to my  
Fellow soldiers.

Grant to our Armed Forces that disciplined valor and  
Mutual confidence which insures success in war.

Let me not mourn for the men who have died fighting,  
But rather let me be glad that such heroes have lived.

If it be my lot to die, let me do so with courage and honor  
In a manner which will bring the greatest harm to the  
Enemy, and please, oh Lord, protect and guide those  
I Shall leave behind.

Give us victory, Lord.

## FEAR

I am that dreadful, blighting thing,  
Like ratholes to the flood.  
Like rust that gnaws the faultless blade,  
Like microbes to the blood.

I know no mercy and no truth,  
The young I blight, the old I slay.  
Regret stalks darkly in my wake,  
And ignominy dogs my way.

Sometimes, in virtuous garb I rove,  
With facile talk of easier way;  
Seducing where I dare not rape,  
Young manhood, from it's honor's sway.

Again, in awesome guise I rush,  
Stupendous, through the ranks of war,  
Turning to water, with my gaze,  
Hearts that, before, no foe could awe.

The maiden who has strayed from right,  
To me must pay the mead of shame.  
The patriot who betrays his trust,  
To me must owe his tarnished name.

I spare no class, nor cult, nor creed,  
My course is endless through the year.  
I bow all heads and break all hearts,  
All owe me homage — I am FEAR.

#### TO OUR FIRST DEAD

They died for France like countless thousands more  
Who, in this war, have faltered not to go  
At duty's bidding, even unto death.  
And yet, no deaths which history records,  
Were fought with greater consequence than theirs.  
A nation shuddered as their spirits passed;  
And unborn babies trembled in the womb,  
In sympathetic anguish at their fate.

Far from their homes and in ungainful strife  
They gave their all, in that they gave their life;  
While their young blood, shed in this distant land,  
Shall be more potent than the dragon's teeth  
To raise up soldiers to avenge their fall.

Men talked of sacrifice, but there was none;  
Death found them unafraid and free to come  
Before their God. In righteous battle slain  
A joyous privilege theirs; the first to go  
In that their going doomed to certain wrath  
A thousand foemen, for each drop they gave  
Of sacramental crimson, to the cause.

And so their youthful forms all dank and stiff,  
All stained with trappings in unlovely mud,  
We laid to rest beneath the soil of France  
So often honored with the hero slain;  
Yet never greatlier so than on this day,  
When we interred our first dead in her heart.

There let them rest, wrapped in her verdent arms,  
Their task well done. Now, from the smoke veiled sky,  
They watch our khaki legions pass to certain victory,  
Because of them who showed us how to die.

## BILL

Bill, he kept racin' the motor,  
For fear that the damned thing would die.  
While I fiddled 'round with the breech block  
And wished for a piece of your pie.

It's funny the way it affects you,  
When you're waitin' for the signal to go.  
There's none of the high moral feeling  
About which the newspapers blow.

For myself, I always is hungry,  
While Bill thought his spark plugs was foul.  
Some guys talks o' sprees they has been on,  
And one kid, what's croaked, thought of school.

At last, I seen Number One signal;  
I beat on the back o' Bill's neck.  
He slipped her the juice and she started,  
And Bill he ain't never come back.

The first news we had of the Boches  
Was shot splinters, right in the eye.  
I cussed twice as loud as the Colonel,  
And forgot all about the old pie.

A Boche he runs out with a tank gun;  
I gave him H.E. in the guts.  
You ought to have seen him pop open!  
They sure was well fed, was them sluts.

We wiped out two nests with caseshot,  
And was just gettin' into a third,  
When we plunked in a hole full of water.  
That Goddamned Bill sure was a bird.

He hollers, "Frank, you're married;  
If only one gets out, it's you."  
And he rammed me up out of the turret.  
I guess that's about all I knew.

A stinkin' whizzbang beaned me,  
Or I might of rescued Bill,  
But it's too late now. He's sleepin'  
By our tank, on that Goddamned hill.

They gave him a Medal of Honor,  
For savin' me for you,  
So if it's a boy we'll name it Bill,  
It's the least and the most we can do.

## DEAD PALS

Dickey, we've trained and fit and died,  
Yes, drilled and drunk and bled,  
And shared our chuck and our bunks in life.  
Why part us now we're dead?

Would I rot so nice away from you,  
Who has been my pal for a year?  
Will Gabriel's trumpet waken me,  
If you ain't there to hear?

Will a parcel of bones in a wooden box  
Remind my Ma of me?  
Or isn't it better for her to think  
Of the kid I used to be?

It's true some preacher will get much class  
A tellin' what guys we've been,  
So, the fact that we're not sleeping with pals,  
Won't cut no ice for him.

They'll yell, "Hurrah!"  
And every spring they'll decorate our tomb,  
But we'll be absent at the spot  
We sought, and found, our doom.

The flags and flowers won't bother us,  
Our free souls will be far  
Holdin' the line in sunny France  
Where we died to win the war.

Fact is, we need no flowers and flags  
For each peasant will tell his son,  
"Them graves on the hill is the graves of Yanks,  
Who died to lick the Hun."

And instead of comin' every spring  
To squeeze a languid tear,  
A friendly people's loving care  
Will guard us all the year.

## VALOR

When all hearts are opened,  
And all the secrets known,  
When guile and lies are banished,  
And subterfuge is gone.

When God rolls up the curtain,  
And hidden truths appear,  
When the ghastly light of Judgment Day,  
Brings past and present near.

Then shall we know what once we knew,  
Before wealth dimmed our sight,  
That of all sins, the blackest is  
The pride which will not fight.

The meek and pious have a place,  
And necessary are,  
But valor pales their puny rays,  
As does the sun a star.

What race of men since time began,  
Has ever yet remained,  
Who trusted not it's own right hand,  
Or from brave deeds refrained?

Yet spite the fact for ages known,  
And by all lands displayed,  
We still have those who prate of peace,  
And say that war is dead.

Yes vandals rise who seek to snatch  
The laurels from the brave,  
And dare defame heroic dead,  
Now filling hero graves.

They speak of those who love,  
Like Christ's, exceeds the lust of life  
And murderers slain to no avail,  
A useless sacrifice.

With infamy without a name,  
They mock our fighting youth,  
And dare decry great hearts who die,  
Battling for right and truth.



Woe to the land which, heeding them,  
Lest avarice gain the day,  
And trusting gold it's right to hold,  
Lest manly might decay.

Let us, while willing yet for peace,  
Still keep our valor high,  
So when our time of battle comes,  
We shall not fear to die.

Make love of life and ease be less,  
Make love of country more.  
So shall our patriotism be  
More than an empty roar.

For death is nothing, comfort less,  
Valor is all in all;  
Base nations who depart from it,  
Shall sure and justly fall.

#### THROUGH A GLASS, DARKLY

Through the travail of the ages,  
Midst the pomp and toil of war,  
Have I fought and strove and perished  
Countless times upon this star.

In the form of many people  
In all panoplies of time  
Have I seen the luring vision  
Of the Victory Maid, sublime.

I have battled for fresh mammoth,  
I have warred for pastures new,  
I have listened to the whispers  
When the race took instinct grew.

I have known the call to battle  
In each changeless changing shape  
From the high souled voice of conscience  
To the beastly lust for rape.

I have sinned and I have suffered,  
Played the hero and the knave;  
Fought for belly, shame, or country,  
And for each have found a grave.

I cannot name my battles  
For the visions are not clear,  
Yet, I see the twisted faces  
And I feel the rending spear.

Perhaps I stabbed our Savior  
In His sacred helpless side.  
Yet, I've called His name in blessing  
When after times I died.

In the dimness of the shadows  
Where we hairy heathens warred,  
I can taste in thought the lifeblood;  
We used teeth before the sword.

While in later clearer vision  
I can sense the coppery sweat,  
Feel the pikes grow wet and slippery  
When our Phalanx, Cyrus met.

Hear the rattle of the harness  
Where the Persian darts bounced clear,  
See their chariots wheel in panic  
From the Hoplite's leveled spear.

See the goal grow monthly longer,  
Reaching for the walls of Tyre.  
Hear the crash of tons of granite,  
Smell the quenchless eastern fire.

Still more clearly as a Roman,  
Can I see the Legion close,  
As our third rank moved in forward  
And the short sword found our foes.

Once again I feel the anguish  
Of that blistering treeless plain  
When the Parthian showered death bolts,  
And our discipline was in vain.

I remember all the suffering  
Of those arrows in my neck.  
Yet, I stabbed a grinning savage  
As I died upon my back.

Once again I smell the heat sparks  
When my flemish plate gave way  
And the lance ripped through my entrails

As on Crecy's field I lay.

In the windless, blinding stillness  
Of the glittering tropic sea  
I can see the bubbles rising  
Where we set the captives free.

Midst the spume of half a tempest  
I have heard the bulwarks go  
When the crashing, point blank round shot  
Sent destruction to our foe.

I have fought with gun and cutlass  
On the red and slippery deck  
With all Hell aflame within me  
And a rope around my neck.

And still later as a General  
Have I galloped with Murat  
When we laughed at death and numbers  
Trusting in the Emperor's Star.

Till at last our star faded,  
And we shouted to our doom  
Where the sunken road of Ohein  
Closed us in its quivering gloom.

So but now with Tanks a'clatter  
Have I waddled on the foe  
Belching death at twenty paces,  
By the star shell's ghastly glow.

So as through a glass, and darkly  
The age long strife I see  
Where I fought in many guises,  
Many names, but always me.

And I see not in my blindness  
What the objects were I wrought,  
But as God rules o'er our bickerings  
It was through His will I fought.

So forever in the future,  
Shall I battle as of yore,  
Dying to be born a fighter,  
But to die again, once more.

## PATTON'S BEST QUOTES

### ARNOLD, GENERAL HENRY H.

Hap Arnold is the only one who understands the Mongols except for me. But, the rest are waking up.

### BASTOGNE (ARDENNES OFFENSIVE)

The First Army is making a terrible mistake in leaving the VIII Corps static, as it is highly probable that the Germans are building up to the east of them.

When I said that I could attack on the 22nd of December, it created quite a commotion.

The situation at Bastogne is grave, but not desperate.

The 101st Airborne call themselves the triple B's. Battered Bastards of Bastogne. They did well, but like the Marines of the last war, they get more credit than they deserve.

I was more amused than surprised when Eisenhower failed to make any remark about my Bastogne operation; in fact, he made no reference whatever to the great successes of the Third Army.

Courtney Hodges and Omar Bradley both received Distinguished Service Medals for their unsuccessful defense of the 'Bulge'. I did not receive one for successfully defending it.

### BATTLE FATIGUE (COWARDICE)

It has come to my attention that a very small number of soldiers are going to the hospitals on the pretext that they are nervously incapable of combat. Such men are cowards, and they bring discredit to the Army and disgrace to their comrades, whom they heartlessly leave to endure the dangers of battle, while they, themselves, use the hospitals as a means of escape.

General John A. Crane, to whose Brigade Private Bennett belongs, stated to me afterwards that the man was Absent Without Leave and that he had gone to the rear by falsely representing his condition to the Battery Surgeon. It is rather a commentary on justice when an Army commander has to soft soap a skulker to placate the timidity of those in command above.

The number of cases of 'war wearies' (the new name for cowardice) and self-inflicted wounds have dropped materially since we got moving. People like to play on a winning team.

### BRADLEY, GENERAL OMAR N.

I can't make out whether Ike thinks Bradley is a better close in fighter than I am or whether he wants to keep in with General Marshall, who likes Bradley. I know that Bradley is completely loyal to me.

Keyes is very dashing. Bradley and Middleton are more methodical. All of them are infinitely loyal and of superior effectiveness.

I have a feeling, probably unfounded, that neither Monty nor Bradley are too anxious for me to have a command. If they knew what little respect I had for the fighting ability of either of them, they would be even less anxious for me to show them up.

It is really a great plan. Wholly my own, and I made Bradley believe that he thought of it.

Omar is O.K., but not dashing.

Bradley was picked for his present job of Army Group Commander long before the 'slap'. Bradley says that he will put me in the fight as soon as he can. He could do it right now and with much benefit to himself, if he had any backbone.

Bradley and Hodges are such nothings. Their virtue is that they get along by doing nothing.

Collins and Bradley are too prone to cut off heads. This type of leadership will make division commanders lose their self confidence.

Bedell Smith arrived and, as usual, was very assertive. As usual he knew nothing. Bradley took him down hard and he was better afterward.

Bradley is too conservative. He wants to wait until we can all jump into the fight together, by which time half of our men will have the flu or trench foot. I wish he had a little more daring.

Bradley is a good officer, but he utterly lacks 'it'. Too bad.

Bradley is a man of great mediocrity. On the other hand, he has many attributes which are considered desirable in a general. He wears glasses; he has a strong jaw; he talks profoundly and says little; and he is a shooting companion of our present Chief of Staff, General Marshall. Also, he is a loyal man. I consider him to be among our better generals.

We had quite a long talk and I told Bradley a lot of my best ideas to tell to General Marshall. I suppose I should have kept them to myself, but I am not built that way. The sooner they are put into effect, the better it will be for our Army.

His success is due to his lack of backbone and his subservience to those above him. I will manage without him. In fact, I always have. Even in Sicily he had to be carried. Personally, I fight every order that I do not like, which makes me very unpopular, but successful.

I do not wish any more of my ideas to be used without credit to me, which is what happens when I give them orally to Bradley.

Courtney Hodges and Omar Bradley both received a Distinguished Service Medal for their unsuccessful defense of the 'Bulge'. I did not receive one for successfully defending it.

BRITISH, THE

Alexander said that it was foolish to consider British and Americans as one people, as we were each foreigners to the other. I said that it was a correct concept and the sooner that everyone recognized it, the better. I told him that my boisterous method of command would not work with the British no matter how successful it might be with Americans, while his cold reserve method would never work with Americans. He agreed.

It is noteworthy that Alexander, the 'Allied Commander' of a British and American Army, had no Americans with him. What fools we are.

This is a horse race. The prestige of the United States Army is at stake. We must take Messina before the British do.

Alexander has no idea of the power and speed of an American Army. We can go twice as fast and hit harder than the British.

I am fed up with being treated like a moron by the British. There is no national honor nor prestige left to us. Ike must go. He is a typical case of a beggar on horseback; he could not stand the prosperity.

One can only conclude that where the Eighth Army is in trouble we are to expend our lives gladly; but when the Eighth is going well, we are to halt so as not to take any glory. It is an inspiring method of making war and shows rare qualities of leadership, and Ike falls for it! Oh, for a Pershing!

It is noticeable that most of the American officers here are pro British, even Ike. I am not, repeat not, pro British.

The British are doing nothing in a big way, not even holding the German Divisions in front of them, as two have left their front and have come to ours.

CHURCHILL, WINSTON SPENCER

He strikes me as cunning rather than brilliant, but he has great tenacity. He is easily flattered, all of them are.

Finally, the Prime Minister made a really great fighting speech, worth all that proceeded it.

Later, when we were going along well and could easily have taken Berlin, Churchill asked Ike to do it. Ike replied by stating that it was Churchill's fault that the line had been established where it was.

I believe that this was a great mistake on Ike's part because, had we taken the country to the Moldau River and Berlin, we would have saved a great deal of agricultural Germany and prevented what I believe historians will consider a horrid crime and a great loss of prestige by letting the Russians take the two leading capitals of Europe.

CLARK, GENERAL MARK WAYNE

Clark was trying to be nice, but it makes my flesh creep to be with him.

Ike and Clark were in conference as to what to do. Neither of them had been to the front, so they showed great lack of decision. They have no knowledge of men or war. Too damned slick, especially Clark.

As far as I am concerned, General Clark has explained nothing. He seems to me more preoccupied with bettering his own future than in winning the war.

Wayne has his camp in the garden of a palace after which Versailles was copied. It is very beautiful, but too far to the rear.

Things are going worse with the 5th Army. Last night they flew in a regimental combat team of the 82nd Airborne to help out. It is noteworthy that when I asked for similar assistance last month, I was told that the 82nd was too valuable to be wasted as infantry.

I just saw a dispatch from the Navy in which it seems that Clark has re-embarked. I consider this fatal for a commander. Think of the effect on the troops. A commander, once ashore, must either conquer or die.

#### DARBY, LIEUTENANT COLONEL

Bradley wanted to get Lieutenant Colonel Darby to command the 180th Regimental Combat Team of the 45th Division with the rank of Colonel. Darby preferred to stay with the Rangers. This the first time I ever saw a man turn down a promotion. Darby is a great soldier. I gave him the Distinguished Service Cross.

#### DISCIPLINE

Lack of discipline at play means the loss of the game. Lack of discipline in war means death or defeat, which is worse than death. The prize of a game is nothing. The prize of war is the greatest of all prizes - Freedom.

There is only one kind of discipline; perfect discipline. If you do not enforce and maintain discipline, you are potential murderers.

It is the common experience of mankind that in moments of great excitement the conscious mental processes of the brain no longer operate. All actions are subconscious, the result of habits. Troops whose training and discipline depend on conscious thought become helpless crowds in battle. To send forth such men is murder. Hence, in creating an Army, we must strive at the production of soldiers, so trained that in the midst of battle they will still function.

When at the beginning of the football season the quarterback barks his numbers at the crouching players he excites an innate opposition; the feeling of 'why in the hell should I do what he says?'. Yet until that feeling is banished by habit, the team is dead on it's feet. The soldier at attention and saluting, is putting himself in the same frame of mind as the player; alert, on his toes, receptive. In battle, the officers are the quarterbacks, the men are the disciplined team on their toes, with that lightning response to orders which means victory, and the lack of which mean death and defeat.

The purposes of discipline and training are; 1. To insure obedience and orderly movement. 2. To produce synthetic courage. 3. To provide methods of combat. 4. To prevent or delay the breakdown of the first three due to the excitement of battle.

There has been, and is now, a great deal of talk about discipline; but few people, in or out of the Army, know what it is or why it is necessary.

All human beings have an innate resistance to obedience. Discipline removes this resistance and, by constant repetition, makes obedience habitual and subconscious.

Unless you do your best, the day will come when, tired and hungry, you will halt just short of the goal you were ordered to reach and by halting, you will make useless the efforts and deaths of thousands.

I'll bet that the Tank Corps will have discipline if nothing else.

Battle is an orgy of disorder. No level lawn nor marker flags exist to aid us in strutting ourselves in vain display, but rather groups of weary, wandering men seeking gropingly for means to kill their foes. The sudden change from accustomed order to utter disorder, to chaos, but emphasizes the folly of schooling to precision and obedience where only fierceness and habituated disorder are useful.

Discipline, which is but mutual trust and confidence, is the key to all success in peace or war.

A mechanical Army only manned by mechanics who were not at the same time soldiers, would be a mess.

Discipline must be a habit so ingrained that it is stronger than the excitement of battle or the fear of death.

This 'Blood and Guts' stuff is quite distasteful to me. I am a very severe disciplinarian because I know that without discipline it is impossible to win battles, and that without discipline to send men into battle is to commit murder.

Personally, I am of the opinion that older men of experience, who have smelled powder and have been wounded, are of more value than mere youthful exuberance, which has not yet been disciplined. However, I seem to be in the minority in this belief.

Brave, undisciplined men have no chance against the discipline and valor of other men.

There was one cadet standing at attention when I was inspecting him who had a fly crawling around his eye and he never winked. I believe that this is the epitome of discipline.

I saw hundreds of men of the First Army doing nothing. I issued orders that we keep a close check on our men to see that they are gainfully employed.

I have never seen in any Army, at any time, including the German Imperial Army of 1912, as severe discipline as exists in the Russian Army.



## DUTY, HONOR, COUNTRY

The duties of an officer are the safety, honor and welfare of your country first; the honor, welfare, and comfort of the men in your command second; and the officer's own ease, comfort, and safety last.

There is a great deal of talk about loyalty from the bottom to the top. Loyalty from the top down is even more necessary and is much less prevalent. One of the most frequently noted characteristics of great men who have remained great is loyalty to their subordinates.

In my opinion, we will only win this war through blood, sacrifice, and courage. In order to get willing fighters, we must develop the highest possible 'Esprit de Corps'. Therefore, the removal of distinctive badges and insignia from the uniform is highly detrimental. To die willingly, as many of us must, we must have tremendous pride not only in our nation and in ourselves, but also in the unit to which we belong.

We must keep moving. Do not sit down. Do not say, "I have done enough." Always see what else you can do to raise hell with the enemy. You must have a desperate determination to continually go forward.

I wish to assure all of my officers and soldiers that I have never and will never criticize them for having done too much. However, I shall certainly relieve them for doing nothing.

I consider it no sacrifice to die for my country. In my mind, we came here to thank God that men like these have lived rather than to regret that they have died.

Sometimes I think I will simply resign and not be a further party to the degradation of my country.

We must have more decorations and we must not give them out with a niggard hand. A young soldier upon being asked by Napoleon what he desired in recompense for an heroic act said, "Sire, the Legion of Honor," to which Napoleon replied, "My boy, you are over young for such an honor." The soldier again said, "Sire, in your service, we do not grow old." This story is as true as it is tragic. Our men do not grow old. We must exploit their abilities and satisfy their longings to the utmost during the brief span of their existence. Surely, an inch of satin for a machine gun nest put out of action is a bargain not to be lightly passed up.

## EDDY, GENERAL MANTON S.

General Eddy is very nervous, very much inclined to be grasping and always worrying that some other Corps Commander is getting a better deal than he is, but when the decision is made, he always does as he is told.

## EISENHOWER, GENERAL DWIGHT DAVID

Ike said to me in departing, "Every time I get a new star, I get attacked." And I said, "And every time you get attacked, I pull you out."

Eisenhower is either unwilling or unable to command Montgomery.

Ike asked me to dinner. Butcher, a British aide-de-camp, a WAAC Captain, and Kay Summersby were also present. Ike was very nasty and show-offish. He always is when Kay is present. He criticized General Lee for his flamboyance, but he would give a million to possess it himself.

Ike said to me, "You are fundamentally honest on the larger issues, but are too fanatical in your friendships." It is a good thing for him that someone is.

I wish to God that Ike would leave and take Smith with him. They cramp my style. It is better to rule in hell than to serve in heaven.

So far in my dealings with him, he has never once mentioned in a complimentary way any action that I or any other officer have performed. I do not believe that it is intentional, but just carelessness; however, it is poor leadership. He had on his new five star insignia. It is a very pretty insignia.

I was more amused than surprised when Eisenhower failed to make any remark about my Bastogne operation. In fact, he made no reference whatsoever to the great successes of the Third Army.

Ike was quite apologetic about the 'four star' business, but has, however, good reasons. That is, you must maintain the hierarchy of command or else relieve them, and he had no reason for relieving them. At the moment I am having so much fun fighting that I don't care what my rank is.

This so called 're-deployment' is really a vote catching program. Ike's people were here to explain the unexplainable.

Later, when we were going well and could have easily taken Berlin, Churchill asked Ike to do it and Ike replied that it was Churchill's fault that the line had been established where it was. I believe this was a great mistake on his part because had we taken the country to the Moldau River and Berlin we would have saved a great deal of agricultural Germany and prevented what I believe historians will consider a horrid crime and a great loss of prestige in letting the Russians take the two leading capitals of Europe.

If Ike, etc. don't like what I do, they can relieve me. Then I will resign, not retire, and I can tell the world a few truths which will be worth saying.

Ike has an unfortunate habit of underrating all Americans who come under him and overrating all British and all Americans who have served elsewhere.

I wish to God that Ike were more of a soldier, and less of a politician.

We suffer very much from lack of command. No one is running the show.

Ike has no conception of physical command. He has never exercised it.

Of course, I was originally selected for 'Torch' through the direct action of Ike and therefore I owe him a good deal. On the other hand, I have paid my way ever since.

His is the style of an office seeker rather than that of a soldier.

Neither Ike nor Brad has the stuff. Ike is bound hand and foot by the British and does not know it. Poor fool. We actually have no supreme commander. No one can take hold and say that this shall be done and that shall be done. It is very unfortunate and I see no solution to the situation.

I told him that if I were reduced to Colonel, I demanded the right to command one of the assault regiments; that this was not a favor, but a right.

Ike replied, "Don't I know it, but what can I do?" That is a hell of a remark for a "supreme commander."

Monty does what he pleases and Ike says, "Yes, Sir!"

Ike was very pontifical and quoted Clausewitz to us, who have commanded larger forces than Clausewitz ever heard of.

Ike kept talking about the future "Great Battle of Germany" while we assured him that the Germans have nothing left to fight with and if we push on now, there will not be a "Great Battle of Germany."

Ike is all for caution since he has never been to the front and has no feel for actual fighting.

At 0800 hours, we heard on the radio that Ike had said that "Monty" was the greatest living soldier and that he is now a "Field Marshall."

I wish that Ike were more of a gambler, but he is certainly a lion compared to Montgomery. And Bradley is better than Ike as far as nerve is concerned.

Ike is not well and is very querulous and keeps saying how hard it is to be so high and never to have heard a hostile shot. He could correct that situation very easily if he wanted to. I also think that he is timid.

Ike and Clark were in conference as to what to do. Neither of them had been to the front, so they showed great lack of decision. They have no knowledge of men or war. Too damned slick, especially Clark.

I am flying to see Ike. He and Clark certainly need to know the facts of life. They send some of the most foolish instructions that I have ever read.

Ike was fine, except that he spoke of lunch as tiffin, of gasoline as petrol, and of anti-aircraft as flack. I truly fear that London has conquered Abilene.

Ike is not as rugged mentally as I had thought. He vacillates and is not realistic.

Ike is getting megalomania.

It is noticeable that most of the American officers here are pro British, even Ike. I am not, repeat, not pro British.

I spent the night at Ike's. Lieutenant Kay Summersby came to supper. Ike and I talked until 0129 hours. He is beginning to see the light but is too full of himself. I was quite frank with him about the British and he took it.

Ike walked the floor for some time, orating, and then he asked me to mention how hard he worked, what great risks he had taken, and how well he had handled the British, in my next letter to General Marshall.

Ike needs a few loyal and unselfish men around him, even if he is too weak a character to be worthy of us. But if I do my duty I will be paid in the end.

It is always depressing to me to see how completely Ike is under the influence of the British. He even prefers steel tracks to rubber tracks on tanks because Monty does.

We are in the clutches of the masterminds here with the inevitable result that we are changing our plans more often than we are changing our underwear. I have been consulted no more than I was when we landed in Sicily.

Ike and I dined alone and we have a very pleasant time. He is drinking too much but is terribly lonely. I really feel sorry for him. I think that in his heart he knows that he is really not commanding anything.

Ike told me that he had not yet decided which of us three, Hodges, Bradley, or I, should command the Army Group. Bradley will!

Ike is getting foolish and bothering about things such as who is to be head nurse; far below his dignity.

Ike has never been subjected to air attack or any other form of possible death. However, he is such a straw man that his future is secure. The British will never let him go.

At no time did Ike wish us luck and say that he was back of us. He is a fool.

Ike said, "You are a great leader, but a poor planner." I replied that except for Torch which I had planned and which was a high success, I have never been given a chance to plan.

Ike arrived. We had a scout car and a Guard of Honor for him. The Guard of Honor was from his old battalion of the 15th Infantry, the only unit he ever commanded.

Ike is now wearing suede shoes, a la British.

When I took Ike to my room to show him the situation, he was not much interested, but he began to compare the sparsity of my reports with the almost hourly news bulletins of the 8th Army under Montgomery.

Ike called up late and said that, "My American boss will visit you in the morning." I asked, "When did Mamie arrive?" Man cannot serve two masters.

I think that if you treat a skunk nicely, he will not piss on you — as often.

Lieutenant General Cocran, the son of a bitch, called our troops cowards. Ike says that since they were serving in his Corps that it was O.K. I told him that had I so spoken of the British under me, my head would come off. He agreed, but does nothing to Cocran.

It is noteworthy that had I done what Cunningham did, I would have been relieved of duty. Ike told me later that he could not punish Cunningham because he was a New Zealander and political reasons forbade it. Unfortunately, I am neither a Democrat nor Republican. Just a soldier.

I am fed up with being treated like a moron by the British. There is no national honor nor prestige left us the Americans. Ike must go. He is a typical case of a beggar on horseback; "could not stand the prosperity."

One can only conclude that where the Eighth Army is in trouble, we are to expend our lives gladly; but when the Eighth Army is going well, we are to halt so as not to take any glory. It is an inspiring method of making war and shows rare quality in our leadership. And Ike falls for it! Oh, for a Pershing!

Ike talked in glittering generalities and then said as nearly as I can remember, "George, you are my oldest friend, but if you or anyone else criticizes the British, by God, I will reduce him to his permanent grade and send him home."

Ike made the sensational statement that while hostilities were in progress, the one important thing was order and discipline, but that now that hostilities were over the important thing was to stay in with world opinion. Apparently whether it was right or wrong.

Eisenhower was also quite anxious for me to run for congress. I presume in the belief that I might help him.

Ike is bitten by the Presidential Bug and he is YELLOW.

Apparently Ike has to a high degree the Messiah Complex for which he can't be blamed since everybody bootlicks him except me.

Eisenhower was more excited than I have ever seen him, and I believe that this can be traced to the fact that he is very much worried about the delay in getting appointed as Chief of Staff at home. He fears that if he stays here, he will lose some of his prestige.

Prince Bernhard of Holland decorated a number of SHAEF officers, including Lieutenant Kay Summersby. She was in a high state of nerves as a result of hearing that General Eisenhower would not be returning.

How can anyone expect any backbone in a man who is already running for President.

I feel that as an American it will ill become me to discredit Ike yet. That is, until I shall prove even more conclusively that he lacks moral fortitude. This lack has been evident to me since the first landing in Africa, but now that he has been bitten by the Presidential Bee, it is becoming even more pronounced.

## FLINT, HARRY (PADDY)

Paddy Flint is clearly nuts, but he fights well.

## GAY, GENERAL HOBART (HAPPY)

Hap Gay is not a world beater, but he is much better than many other Lieutenant Generals and far more loyal.

## GERMANS AND GERMANY

The mention of Bitburg reminds me of an incident which I saw there, which is very illustrative of the Germans. I entered the town from the south while fighting was still going on along the northern edge, which was not too far distant, since Bitburg is a small place. In spite of the fact that shells were falling with considerable regularity, I saw five Germans, three women and two men, re-roofing a house. They were not even waiting for Lend Lease, as would be the case in several other countries which I could mention.

All Nazis are bad, but not all Germans are Nazis.

Actually, the Germans are the only decent people left in Europe. It's a choice between them and the Russians. I prefer the Germans.

We are turning over to the French several hundred thousand Prisoners of War to be used as slave labor in France. It is amusing to recall that we fought the Revolution in defense of the rights of man and the Civil War to abolish slavery and have now gone back on both principles.

It is no more possible for a man to be a civil servant in Germany and not have paid lip service to the Nazi's than it is for a man to be a postmaster in America and not have paid at least lip service to the Democratic Party or the Republican Party when they are in power.

If we let Germany and the German people be completely disintegrated and starved, they will certainly fall for Communism and the fall of Germany for Communism will write the epitaph of Democracy in the United States.

## HARMON, GENERAL ERNEST N.

If it is desired to have an Armored Corps, I should recommend General Harmon to command it.

## HISTORY

So far as the Atomic Bomb is concerned, while it is a scientific invention of the first water, it is not as earthshaking as you might think. When man first began fighting man, he unquestionably used his teeth, toenails, and fingernails. Then one day a very terrified or else very inventive genius picked up a rock and bashed a man in the head while he was gnawing at his vitals. The news of this unheard of weapon unquestionably shocked Neolithic Society, but they became accustomed to it. Thousands of years later, another genius picked up the splintered rib of a Mastodon and using it as a dagger, thrust it into the gentleman with a rock in his hand. Again, pre-historic society was shocked and said, "There will surely be no more wars. Did you hear about the Mastodon bone?"

When the shield, slingshot, javelin and the sword and armor were successively invented, each in its turn was heralded by the proponents as a means of destroying the world or of stopping war. Certainly the advent of the Atomic Bomb was not half as startling as the initial appearance of gunpowder. I remember two inventions which were supposed to stop war; namely the submarine and the tank. Yet, wars go blithely on and will continue to do so when your great grandchildren are very old men.

The great warriors of history were too busy and often too inept to write contemporaneously of their exploits. What they later put on paper was colored by strivings for enhanced fame or by political conditions then confronting their perished past. The violent simplicity in execution which procured for them a success and enthralled the world looked pale and uninspired on paper, so they invariably seasoned it.

Without benefit of aerial bombardment, ground smoke, artillery preparation and airborne assistance, the Third Army at 2200 hours, Thursday, 22nd March, 1945, crossed the Rhine River.

The 21st Army Group was supposed to cross the Rhine River on 24th March, 1945, and in order to be ready for this earthshaking event, Mr. Churchill wrote a speech congratulating Field Marshall Montgomery on the 'first' assault crossing over the Rhine River in modern history. This speech was recorded and through some error on the part of the British Broadcasting Corporation, was broadcast. In spite of the fact that the Third Army had been across the Rhine River for some THIRTY-SIX HOURS.

History is replete with accounts of military inventions, each heralded by its disciples as the Dernier Cri — the Key to victory.

It took me a long time to realize just how much a student of medieval history could gain from observing the Arab.

I have a notion that usually the great things a man does appear to be great only after we have passed them. When they are at hand they are normal decisions and are done without knowledge. In the case of a General, for example, the almost superhuman knowledge which he is supposed to possess exists only in the mind of his biographer.

I believe that for a man to become a great soldier it is necessary for him to be so thoroughly conversant with all sorts of military possibilities that whenever an occasion arises, he has at hand, without effort on his part, a parallel. To attain this end, I believe that it is necessary for a man to begin to read military history in its earliest and crudest form and to follow it down in natural sequence, permitting his mind to grow with his subject until he can grasp, without any effort, the most abstract question of the Science of War because he is already permeated with its elements.

We disregard the lessons of history.

I am convinced that more emphasis should be placed on history. The purpose of history is to learn how human beings react when exposed to the danger of wounds or death, and how high ranking individuals react when submitted to the onerous responsibility of conducting war or the preparation of war.

Save for the appearances, the Hoplite and the Rifleman are one. The emotions and consequent reactions which affected one affect the other.

Caesar, utilizing the rapid marching and high battle mobility of his professional armies, defeated many mass armies, all of which invariably outnumbered him.

Genghis Khan, by the use of higher mobility, led his Mongols to victory over many weak nations.

#### HODGES, GENERAL COURTNEY

Bradley and Hodges are such nothings. Their virtue is that they get along by doing nothing.

Even the tent maker admits that Courtney is dumb. He is also very jealous of me.

He is apparently less dumb than I considered him. I am personally very fond of him.

Courtney Hodges and Omar Bradley both got a Distinguished Service Medal for their unsuccessful defense of the Bulge. I did not get one for successfully defending it.

#### HUMOR

The following pun always elicited great applause in the Great War; "If the staff of life is bread, what is the life of the staff? One long loaf!"

Yesterday, the Field Marshall ordered SHAEF to have the Third Army go on the defensive, stand in place, and prepare to guard his right flank. The Field Marshall then announced that he will, after regrouping, make what he describes as a lightning thrust at the heart of Germany. "They will be off their guard," he said, "and I shall pop out at them like an angry rabbit."

In view of the prevalent opinion in America that soldiers are, of all persons, the least capable of discussing military matters and that their years of special training is nil compared to the innate military knowledge of lawyers, doctors, and preachers, I am probably guilty of a great heresy in daring to discuss tanks from the viewpoint of a tank officer.

I just took Trier with only two divisions. Do you want me to give it back?

Take this five gallon gasoline can to Montgomery with this message; "Although I am sadly short of gasoline myself, I know of your admiration for our equipment and supplies and I can spare you this five gallons. It will be more than enough to take you as far as you probably will advance in the next two days."

One very funny thing happened in connection with the Moroccan troops. A Sicilian came to me and said that he had a complaint to make about the conduct of the Moroccans, or Goums, as they are called. He said that he well knew that all Goums were thieves, and also that they were murderers, and that sometimes they indulged in rape. These things he could understand and make allowances for but when they came into his house, killed his rabbits, and then skinned them right in his parlor, it was going too far.



General Anders of the Polish II Corps told me laughingly that if he got between a German Army and a Russian Army, he would have difficulty deciding which they should fight.

A man I once met while a young lieutenant in Texas was a panther hunter and he told me many strange adventures which others said were all true. He was very dark and commented on it saying, "Damn it, lieutenant, a feller took me for a Mex and I had to shoot him three times 'afore he believed I was white." This impressed me very much and I assured him that he was the whitest man that I had ever seen.

The reason stated for the column leaving the road was that in this way they could avoid ricochets. A more complete immunity could be secured by not enlisting in the Army.

One of our American officers the other day began copying the British and started putting the initials of his decorations after his name; so today I wrote him a letter, adding the simple initials S.O.B.

The Third Army starts attacking in the morning, but we will go slow so the others can catch up.

The Germans have damn little arms left, unless they have reproducing tanks.

Soldiers are always contrary. I could issue them coats without buttons and I will bet that within twenty four hours they would find some, sew them on, and keep them buttoned.

JENSON, CAPTAIN RICHARD N.

He was a fine man and officer. He had no vices. I cannot see the reason why such fine young men get killed. I shall miss him a lot.

KEYES, GENERAL GEOFFREY

Keyes is very dashing, Bradley and Middleton are more methodical. All of them are infinitely loyal and of superior effectiveness.

I was delighted to see him. I think he is one of the most pleasant companions and most loyal friends that I have ever known.

KOCH, COLONEL OSCAR

Oscar Koch is the best damned intelligence officer in any United States Army Command.

LEADERSHIP

In picking a Command Post, you must always have a road net from which you can move forward to any portion of your line. A Command Post situated at a spot where it is necessary to move to the rear is disadvantageous. In this connection, it is always best, where practical, to drive to the front, so that the soldiers can see you going in that direction, and to same time, fly back by Cub plane so that you are never seen going to the rear.

There is nothing harsh in brief words of command any more than there is impoliteness in the brief wording of a telegram. Commands simply express your desire, your signal, in the briefest and most emphatic language possible. If you are to obtain obedience from your men, your language must express your meaning concisely and with emphasis. Further, each meaning must always be expressed in precisely the same language. In this way, when you give commands in battle, the unreasoning mind of the soldier will automatically carry out the set of instructions to which he has become accustomed. It is inexcusable for you to express yourself in an ambiguous or hesitating manner.

War is not run on sentiment.

A man of diffident manner will never inspire confidence. A cold reserve cannot beget enthusiasm.

The leader must be an actor. He is unconvincing unless he lives the part. The fixed determination to acquire the Warrior Soul and having acquired it, to conquer or perish with honor is the secret of victory.

The greatest gift a general can have is a bad temper. A bad temper gives you a sort of divine wrath and it is only by the use of a divine wrath that you can drive men beyond their physical ability in order to save their lives.

There are apparently two types of successful soldiers. Those who get on by being unobtrusive and those who get on by being obtrusive. I am of the latter type and seem to be rare and unpopular, but it is my method.

My little dictionary does not have sycophant in it, but every one of my divisions have.

It seems very queer that we invariably entrust the writing of our regulations for the next war to men totally devoid of anything but theoretical knowledge.

Leadership is the thing that wins battles. I have it, but I'll be damned if I can define it. It probably consists of knowing what you want to do, and then doing it and getting mad as hell if anyone tries to get in your way. Self confidence and leadership are twin brothers.

Among leaders of whatever rank there are three types; 10% genius, 80% average, and 10% fools. The average group is the critical element in battle. It is better to give such men several simple alternative solutions which, by repeated practice, they can independently apply than it is to attempt to think for them via the ever fallible means of communication.

When a surgeon decides in the course of an operation to change it's objective, to splice that artery or cut deeper and remove another organ which he finds infected, he is not making a snap decision, but one based on years of knowledge, experience, and training. It is the same with professional soldiers.

Wars may be fought with weapons, but they are won by men. It is the spirit of the men who follow and the man who leads that gains the victory.

Through the murk of fact and fable rises to our view this one truth; the history of war is the history of warriors; few in number but mighty in influence. Alexander, not Macedonia, conquered the

world. Scipio, not Rome, destroyed Carthage. Marlborough, not the Allies, defeated France. Cromwell, not the Roundheads, dethroned Charles.

It lurks invisible in that vitalizing spark, intangible, yet as evident as the lightning; the Warrior Soul.

War is conflict. Fighting is an elemental exposition of the age old effort to survive. It is the cold glitter of the attacker's eye that breaks the line, not the point of the bayonet.

The most vital quality which a soldier can possess is self confidence; utter, complete, and bumptious. You can have doubts about your good looks, about your intelligence, or about your self control, but to win in war, you must have no doubt about your ability as a soldier.

Each, in his appropriate sphere, will lead in person. Any commander who fails to obtain his objective and who is not dead or severely wounded, has not done his full duty.

It always made me mad to have to beg for opportunities to win battles.

Julius Caesar would have a tough time being a Brigadier General in my Army.

Inspiration does not come via coded messages, but by visible personality.

This habit of commanding too far down, I believe, is inculcated at schools and maneuvers. Actually, a general should command one level down and know the positions of units two echelons down.

## LOYALTY

I prefer a loyal staff officer to a brilliant one.

When a man gets married, he must be just as careful to keep his wife's love as he was to get it. It would be very sad for both of them if he said to himself, "Now that I have you I need not worry about losing you". Don't do that, ever!

There has been a great deal of talk about loyalty from the bottom to the top. Loyalty from the top to the bottom is much more important, and also much less prevalent. It is this loyalty from the top to the bottom which binds juniors to their seniors with the strength of steel.

## MARSHALL, GENERAL GEORGE CATLETT

All he did was to make excuses for the lack of discipline in the Air Force. There is no excuse. My troops are disciplined.

Marshall lacks imagination, but he has an unusual mind.

## MAXIMS

There is nothing more pathetic and futile than a general who lives long enough to explain a defeat.

Success in war depends on the golden rules of war; speed, simplicity, and boldness.

The enemy is as ignorant of the situation as are we.

You are not beaten until you admit it.

You don't have to hurry, you have to run like hell.

War is the only place where a man lives.

The flag is to the patriot what the cross is to the christian.

Do your duty as you see it, and damn the consequences.

It is the unconquerable soul of man and not the nature of the weapon he uses which insures victory.

Lack of orders is no excuse for inaction. Anything done vigorously is better than nothing done tardily.

Aviation cannot take prisoners nor hold ground.

A tank which stops to fire, gets hit.

A good solution applied with vigor now is better than a perfect solution applied ten minutes later.

We can conquer only by attacking.

Speed and ruthless violence on the beaches is vital. There must be no hesitation in debarking. To linger on the beaches is fatal.

Officers must assert themselves by example and by voice.

There is no approved solution to any tactical situation.

There is only one tactical principle which is not subject to change. It is, "To use the means at hand to inflict the maximum amount of wounds, death, and destruction on the enemy in the minimum amount of time."

In case of doubt, ATTACK!

We must remember that victories are not gained solely by selfless devotion. To conquer, we must destroy our enemies. We must not only die gallantly, we must kill devastatingly. The faster and more effectively we kill, the longer we will live to enjoy the priceless fame of conquerors.

Battle is the most magnificent competition in which a human being can indulge. It brings out all that is best; it removes all that is base.

It is easy to die for nothing, one should die for something.

The more senior the officer, the more time he has to go to the front.

As long as you attack them, they cannot find the time to attack you.

A pint of sweat saves a gallon of blood.

One continues to learn about war by practicing war.

The soldier is the Army. No Army is better than it's soldiers.

Never stop until you have gained the top or the grave.

The world has no use for a defeated soldier and nothing too good for a victor.

Never stop being ambitious. You have but one life, live it to the fullest of glory and be willing to pay any price.

Genius is an immense capacity for taking pains.

Always do more than is required of you.

It is better to live in the limelight for a year than in the wings forever.

Fame never yet found a man who waited to be found.

Everything is a final heat.

By perseverance, and study, and eternal desire, any man can become great.

Do not regard what you do only as preparation for doing the same thing more fully or better at some later time. Nothing is ever done twice. There is no next time. This is of special application to war. There is but one time to win a battle or a campaign. It must be won the first time.

There is but one international law; the best Army!

We will have no real Army until we have universal service.

In war, death is incidental; loss of time is criminal.

War means fighting and fighting means killing.

If a man thinks war long enough, it is bound to have a good effect on him.

Punishment is not for the benefit of the sinner, it is for the salvation of his comrades.

There are more tired Corps and Division commanders than there are tired Corps and Divisions.

Fatigue makes cowards of us all. Men in condition do not tire.

Cowardice is a disease and it must be checked before it becomes epidemic.

Haste and speed are not synonymous.

The true objective of armor is enemy infantry and artillery; and above all else, his supply installations and command centers.

You must never halt because some other unit is stuck. If you push on, you will relieve the pressure on the adjacent unit and it will accompany you.

The sole purpose of the cannon on the tank is to let the tank get into where it can use its machine gun to kill the enemy.

The unleavened bread of knowledge will sustain life, but it is dull fare unless it is leavened with the yeast of personality.

To be a successful soldier, you must know history.

Like wine, accounts of valor mellow with age; until Achilles dead 3000 years stands peerless.

Many soldiers are led to faulty ideas of war by knowing too much about too little.

War is an art and as such it is not susceptible of explanation by fixed formulae.

In peace, the scholar flourishes. In war, the soldier dies. So it comes about that we view our soldiers through the eyes of scholars and attribute to them scholarly virtues.

The pacifist actually refuses to defend what defends him; his country. In the final analysis this is the most basic immoral position.

Throughout history wars have been lost because of armies not crossing rivers.

An army is like a piece of cooked spaghetti. You can't push it, you have to pull it after you.

War is simple, direct, and ruthless. It takes a simple, direct, and ruthless man to wage it.

War is a killing business. You must spill the enemy's blood or they will spill yours.

The greatest privilege of citizenship is to be able to freely bear arms under one's country's flag.

All men are afraid in battle. The coward is the one who lets his fear overcome his sense of duty.

Go until the last shot is fired and the last drop of gasoline is gone. Then go forward on foot.

The hardest thing a general has to do is to wait for the battle to start after all of the orders have been given.

Americans do not surrender.

Never make excuses whether or not it is your fault.

If brevity is the soul of wit, then repetition is the heart of instruction.

The important thing in any organization is the creation of a soul, which is based on pride, in the unit.

Re-grouping is the curse of war and it is a great boon to the enemy.

It may be of interest to future generals to realize that one makes plans to fit the circumstances, and does not try to create circumstances to fit plans.

The only thing to do when a son of a bitch looks cross-eyed at you is to beat the hell out of him right then and there.

There is nothing democratic about war. It is a straight dictatorship. The use of force to attain the end desired.

As long as man exists, there will be war. The only way to avoid trouble is to have the best Army, Navy, and Air Force.

MIDDLETON, GENERAL TROY H.

Keyes is very dashing; Bradley and Middleton are more methodical. All of them are infinitely loyal and of superior effectiveness.

I had to use the whip on both Middleton and Milliken today. They are too cautious.

General Middleton is the most methodical; probably the best tactician, very firm in his relations with other Corps Commanders.

MILLIKIN, GENERAL JOHN

I had to use the whip on both Middleton and Milliken today. They are too cautious.

MISCELLANEOUS

When men see a marked helmet, they know that it is an officer. These markings are not visible at a range beyond 200 yards, therefore, the timid excuse that they produce sniping is of no value. Sniping occurs beyond that range.

One man received a direct hit and we could not find him for three days when we began to smell pieces of him, but we never found any portion of his body.

I found a chaplain who was poking around the command post while there were wounded being put into ambulances close by. I gave him hell.

A bunch from Ike's staff tried to put me on the spot for not disarming the French in Africa. I assumed the offensive, showing them that to disarm the French or to discredit them meant an Arab War which would demobilize sixty thousand American soldiers as a starter. All of them agreed with me at last.

Battle is not a terrifying ordeal to be endured. It is a magnificent experience wherein all of the elements that have made man superior to the beasts are present. Courage, self sacrifice, loyalty, help to others, and devotion to duty. As you go in, you will perhaps be a little short of breath, and your knees may tremble. This breathlessness, this tremor, they are not fear. It is simply the excitement which every athlete feels just before the whistle blows. No, you will not fear for you will be borne up and exalted by the proud instinct of our conquering race. You will be inspired by magnificent hate.

Sometimes I wish that people would take this war more seriously.

I think that we will go forward like shit through a tin horn.

Peace is going to be a hell of a letdown.

The woods are full of corpses and it is going to stink some in the spring.

I saw a lot of dead Germans yesterday frozen in funny attitudes. I got some good pictures, but did not have my color camera, which was a pity, as they were a pale claret color.

Speaking in general, I find that moral courage is the most valuable and usually the most absent characteristic in men. Much of our trouble is directly attributable to the fear of they.

In this war, we were also unfortunate in that our high command in the main consisted of staff officers who, like Marshall, Eisenhower, and McNary, had practically never exercised command. I think it was this lack of experience which induced them to think of and treat units such as divisions, corps, and armies as animated Tables Of Organization rather than as living entities.

One feature of the 'great war' which has left it's mark is the evolution of the specialist. These men are trained to do a special job, and are not trained to be soldiers.

Dear SHAEF, I have just pissed into the Rhine River. For God's sake, send some gasoline.

One sentinel, reinforced, stopped 17 Germans in American uniforms. 15 were shot, 2 died suddenly.

To me, the Egyptian pyramids were quite disappointing. They are not as big nor as impressive as those around Mexico City.

In Egypt, on a fresh water canal, I saw a man defecating in the water, while below him at a distance of not more than ten yards, women were washing clothes, and a short distance further downstream a village populace was drawing drinking water.

All of the animals are head shy and many are blind as a result of the cheerful Arab custom of beating them on the head with a stick.



It seems to me a certainty that the fatalistic teachings of Mohammed and the utter degradation of the Arab women are the outstanding causes for the arrested development of the Arab. He is exactly as he was around the year 700, while we have been developing.

The bridge had been partly destroyed by a German who was hiding in a foxhole. He had pushed the detonator and blew the bridge killing some Americans after the leading elements had passed. He then put up his hands and surrendered. The Americans took him prisoner, which I considered to be the height of folly.

On this day, we processed through the cages and photographed the two hundred thousandth German prisoner. When we sent this to Public Relations, 12th Army Group, they would not publish the picture, because since the man had a sign on him stating that he was the two hundred thousandth prisoner of war, they said he was being degraded, which is contrary to the Geneva Convention.

Major Murphy told me that he could not add smoke in the plan since the stencil had already been cut. That was one of the most foolish remarks that I heard during World War I.

We are losing all hardihood. Today at the races I saw a jockey fall and get killed. A large, healthy man near me shuddered and said that steeplechasing was so dangerous that it should be abolished. Such squeamishness is fatal to any race of people.

The enemy has been booby trapping his dead, which has made our men very mad. The result is that there are more enemy dead than usual.

Yesterday, I drove over one of our local battlefields and I could smell dead men for ten miles. It is a very strong and disgusting odor.

It is very patent that what our Military Government in Germany is attempting to do is undemocratic and follows practically Gestapo methods.

No one gives a damn how well Bavaria is run. All they are interested in is how well it is ruined.

After the meeting, I signed a number of Courts Martial and discovered that it is the policy of the Theater Commander not to give the death sentence to any American soldier convicted of raping a German woman. This seemed somewhat at variance with Anglo-Saxon custom.

## MISTAKES

The 15th Corps could have easily entered the town of Falaise and completely closed the gap to Argenten, but we were ordered not to do this. This halt was a great mistake as I was certain that we could have entered Falaise and I was not certain that the British would. As a matter of fact, we had reconnaissance parties near the town when we were ordered to pull back.

The 29th of August, 1944 was, in my opinion, one of the critical days in this war. Hereafter pages will be written on it, or rather on the events which produced it. It was evident that at that time there was no real threat against us as long as we did not stop ourselves or allow ourselves to be stopped by imaginary enemies. Everything seemed rosy when suddenly it was reported to me that the

140,000 gallons of gasoline which we were supposed to get for that day did not arrive. I presented my case for a rapid advance to the east for the purpose of cutting the Siegfried Line before it could be manned. It is my opinion that this was the momentous error of the war.

Bradley called up at 1710 hours and in my opinion crawfished quite blatantly, in his forbidding me to use the 83rd Division. I believe that he had been 'overtalked' either by Middleton or Hodges, or both. I was very sore at the time, and I still regard it as a great mistake. If I had been able to use two combat teams of the 83rd to attack Saarburg, that town would have fallen on the 12th or on the 13th and we probably would have captured the city of Trier. With Trier in our hands, Von Rundstedt's breakthrough to Bastogne could not have occurred. This is probably another case of "on account of a nail, a shoe was lost, etc."

Later, when we were going along well and could easily have taken Berlin, Churchill asked Ike to do it. Ike replied by stating that it was Churchill's fault that the line had been established where it was. I believe that this was a great mistake on Ike's part because, had we taken the country to the Moldau River and Berlin, we would have saved a great deal of agricultural Germany and we would have prevented what I believe historians will consider a horrid crime and a great loss of prestige in letting the Russians take the two leading capitals in Europe.

I had never heard that we fought to de-Nazify Germany. Live and learn. What we are doing is to utterly destroy the only semi-modern state in Europe so that Russians can swallow the whole.

The First Army is making a terrible mistake in leaving the VIII Corps static, as it is highly probable that the Germans are building up to the east of them in the Ardennes area.

MONTGOMERY, FIELD MARSHALL BERNARD LAW

We roll across France in less time than it takes Monty to say re-group and here we sit stuck in the mud of Lorraine.

We never had to re-group, which seemed to the chief form of amusement of the British Armies.

Montgomery had the nerve to get someone in the United States to suggest that General Eisenhower was 'over worked' and needed a Deputy Ground Force Commander for all of the troops in Europe and that he, Monty, was God's gift to war in this respect.

Monty is trying to steal the show with the help of Eisenhower. He may do so, but to date we have captured three times as many enemy as our cousins have.

I have a feeling, probably unfounded, that neither Monty nor Bradley are too anxious for me to have a command. If they knew what little respect I have for the fighting ability of either of them, they would be even less anxious for me to show them up.

Mr. McCloy asked me what I thought of Monty. I said at first that I preferred not to answer and then when pressed, I said that I thought Monty was too cautious and would not take calculated risks.

During Montgomery's lecture, it was interesting to note that I was the only American Commander of the four American Commanders involved in the plan to be mentioned by name. The other three he mentioned by number of the Army.

I fear that after we land in France, we will be boxed into a beachhead, due to timidity and lack of drive, which is latent in Montgomery.

Bradley says he will put me in as soon as he can. He could do it now with much benefit to himself, if he had any backbone. Of course, Monty does not want me as he fears that I will steal the show, which I will.

Montgomery went to great lengths to explain why the British had done nothing.

To hell with Monty. I must get so involved that they can't stop me. I told Bradley not to call me until after dark on the 19th.

At 0800 we heard on the radio that Ike said that Monty was the greatest living soldier and that he is now 'Field Marshall'.

The Field Marshall thing made us sick, that is Bradley and me.

Monty is a tired little fart. War requires the taking of risks and he won't take them.

Eisenhower is either unwilling or unable to command Montgomery.

This is another case of giving up a going attack in order to start one which has no promise of success except for the exaltation of Monty, who has never won a battle since he left Africa and only El Alamein their. I won Mareth for him.

I can out fight that little fart, Monty, anytime.

We never met any opposition because the bigger and better Germans fight Monty. He says so. Also, he advertises so damn much that they know where he is. I fool them.

## PACIFISM AND PACIFISTS

The pacifists are at it again. I met a visiting fireman of great eminence who told me that this was to be the last war. I told him that such statements since 2600 B.C. had signed the death warrants of millions of young men. He replied with the stock lie, "Oh yes, but things are different now". My God! Will they never learn?

The pacifist actually refuses to defend what defends him; his country. In the final analysis this is the most basic immoral position.

Man is war. War is conflict. Fighting is an elemental exposition of the age old effort to survive.

We are losing all hardihood. Today at the races I was a jockey killed. A large and healthy man near me shuddered and said that steeplechasing was so dangerous that it should be abolished. Such squeamishness is fatal to any race of people.

It is very easy for ignorant people to think that success in war may be gained by the use of some wonderful invention rather than by hard fighting and superior leadership.

The more I see of people, the more I regret that I survived the war.

The attitude of the American people as evinced by the press and the radio is such that I am inclined to think that I made a great mistake in serving them for nearly forty years.

## PATRIOTISM

In our schools the youth should learn to show reverence for our flag and not treat it only as a handsome decoration. Each day he should study and hear recounted some of the splendid deeds of patriotism with which our country abounds. Surely this is vital, for if the alphabet and the multiplication table develop the mind, is not the soul worthy of instruction?

The often repeated statement that the country owes the soldier for his services is based on a misconception of duty and patriotism. The soldier, being a citizen, owes the country service and whatever he gets in return is a gift; pure and simple.

The too often repeated remark that "the country owes me a living" is nothing short of treason. The nation owes all of its citizens an equal chance, but it is not responsible for the faults and follies of those who fail to avail themselves of these opportunities.

My poetry, my rhymes, were written by a man who having seen something of war is more impressed with the manly virtues it engenders than with the necessary and much exaggerated horrors attendant upon it. They are offered to the public in the hope that they may help to counteract the melancholy viewpoint of many of our poets who write of the great wars. We should not dwell on sorrow that these slain in battle have died, but rather be thankful that they have lived.

The man who finds twenty dollars on the street or wins it at the slot machine thinks lightly of it, and before long it is as lightly spent. The same man who works and sweats for half a week for that same amount respects it and grudgingly parts with it when he has won it. So with patriotism. The light feelings of love and reverence for our country engendered by shouting for the flag on the 4th of July are too haphazard, too cheap. The man who has served a year with sweat and some discomfort feels that truly he has a part in his country, and that of a truth he has, and he is a patriot.

Back of us stretches a line of men whose acts of valor, of self sacrifice, and of service have been the theme of song and story since long before recorded history began. Our professional ancestors were sung of by the blind poet Homer a thousand years before the Christ. The exploits of which he chanted, and others of like nature, were handed down by word of mouth or in everlasting marble to the time when they might be recorded in writing for the eternal inspiration for the race.

Do not talk or think of your rights or your fatigues or of what the other fellow failed to do. War is the struggle of nations; you are in it, but as an individual, and hence your feelings as such do not exist.

In doing your utmost, even unto death, you are conferring no favor. You are privileged to be able to do so much for your country.

PATTON, GEORGE SMITH, JUNIOR

It is really amazing what the determination on the part of one man can do to many thousands.

I have written more damn letters, I suppose a thousand, to the mothers of private soldiers whom I happen to know have been killed, but that never comes out. I kick some son of a bitch in the ass who doesn't do what he should and it comes out all over the whole damned country.

If I could only steal some gasoline, I could win this war.

They all get scared and then I appear and they feel better.

At the close of this war, I will remove my insignia and wrist watch. I will continue to wear my short coat so that everyone can kiss my ass.

If I were a liar, I would say that I planned it, but actually, I was as lucky as hell.

I guess that I am the only one who sees glory in war.

I am not the first general to catch hell. Wellington had plenty of it, as did General Grant, and countless others.

I love and admire good soldiers and brave men. I hate and despise slackers and cowards.

Like all commanders, I am constantly faced with the problem of malingering. If it is not checked, it spreads like a prairie fire.

I can't see how people can be so dull and lacking in imagination. Compared to them I am a genius. I think I am.

I can't see why people are so foolish. So far, TORCH was the biggest and most difficult landing operation attempted. It was a great success and I planned it. I have yet to be questioned by any of the current planners concerning my experience.

Personally, I have never voted and do not intend to do so.

I drove to the Rhine River and went across on the pontoon bridge. I stopped in the middle to take a piss and then picked up some dirt on the far side in emulation of William the Conqueror.

The Marines always go to town by reporting the number of men they have had killed. I always try to fight without getting our people killed.

I wonder if ever before in the history of war a winning general has had to plead to be allowed to keep on winning.

We can never get anything across unless we talk the language of the people we are trying to instruct. Perhaps that is why I curse.

For years I have been accused of making snap judgments. Honestly, this is not the case because I am a profound military student and the thoughts I express, perhaps too flippantly, are the result of years of thought and study.

I wish someone would listen to me. I have something which makes people reluctant to question me; perhaps I always have an answer based on truth and not based on bootlick.

Sometimes I wish that I was retired, but I guess that I would not like that either. I would probably be content only if I were God; and someone probably outranks him, too.

The more I see of the so called great, the less they impress me. I am better.

Little Bea's husband is in Europe as a lieutenant colonel and Ruth Ellen's husband is soon to go. George is a plebe at West Point and I have only two polo ponies left. Why should I linger too long?

I'm a hell of a guy. I'm giving the men hell one minute and crying over them the next.

When I think of the greatness of my job, and realize that I am what I am, I am amazed. But, on reflection, who is as good as I am? I know of no one.

I am probably the most unpopular man, not only in the 2nd Armored Division, but in the whole Army. I get very tired of being the only person in this outfit who makes any corrections.

There seems to be an unwitting conspiracy to make me lose my self confidence, but so far it has failed.

Tomorrow I shall have my new battle jacket. If I'm to fight I like to be well dressed.

I wish I were supreme commander.

The only question in my mind is being able to survive the lapses between campaigns when I always seem to get myself into trouble. I am like a puppy, always sticking my nose into trouble.

There is nothing to do at the moment except to be a secret weapon.

If they will let me fight, I will. But if not, I will resign so as to be able to talk and then I will tell the truth and possibly do my country more good.

Even I can be pushed just so far.

It is a horrid thought that one may be deprived of doing the only thing one is good at due to the exercise of free speech.

I only wear the shiny helmet in the back areas and have never ridden in a tank in battle.

I have this place so well organized now that there is nothing for me to do and I am getting nervous again.

Sometimes I think that I am not such a great commander after all; just a fighting animal.

Truly, for so fierce a warrior, I have a damned mild expression.

Does my conscience hurt me for killing that man in Mexico? It does not. I feel about it just as I did when I got my first swordfish, surprised at my luck.

Sometimes I wonder if I can do all that there is to do, but I suppose I can. I always have so far.

I have always talked blood and murder and am looked on as an advocate of close up fighting. I could never look myself in the face if I were a staff officer and comparatively safe.

The bullet went into the front of my left leg and came out just at the crack of my ass about two inches to the left of the rectum. It made a hole about the size of a silver dollar where it came out.

Lots of officers look forward to fishing, farming, etc. after the war. I don't. I look forward to fighting here, in Japan, or at home, for the rest of my days.

I continued to walk up and down the beachhead and soon shamed them into getting up and fighting.

One man had the top of his head blown off and they were just waiting for him to die. He was a horrid bloody mess and was not good to look at or I might develop personal feelings about sending men into battle. That would be fatal for a general.

I have trained myself so that usually I can keep right on talking when an explosion occurs quite close. I take a sly pleasure in seeing others bat their eyes or look around.

I hear the big guns and they have the damndest effect on me. I am scared, but I still want to get to the front.

I am not a brilliant soldier. So far, I have been quite successful because I am always fully confident that I can do what must be done and have had my sense of duty developed to the point where I let no personal interests or danger interfere.

There must one commander for ground, air, and sea. The trouble is that we lack leaders with sufficient strength of character. I could do it and possibly will. As I gain experience, I do not think more of myself, but less of others. Men, even so called great men, are wonderfully weak and timid. They are too damned polite. War is simple, direct, and ruthless. It takes a simple, direct, and ruthless man to wage it.

Now there is nothing to stop me. We have fresh divisions arriving. We've mastered the air. We have, after some tough lessons, the best weapons in the world. We can march into Berlin, Vienna, Prague, and Belgrade with people throwing flowers in our path. But, from Washington or London or somewhere they'll stop us. Otherwise, it might offend the Goddamned Russians. Before that happens, I'm hoping to get out of here to fight the Japs. If not, I'm going to resign and tell the people in my country what is the truth.

On the opposite of the road was an endless line of ambulances bringing men back; wounded men. Yet, when the soldiers of the 90th Division saw me, they stood up and cheered. It was the most moving experience of my life, and the knowledge of what the ambulances contained made it still more poignant.

On the 10th, Bradley called up to ask me how soon I could go on the defensive. I told him that I was the oldest leader in age and in combat experience in the United States Army in Europe and that if I had to go on the defensive, I would ask to be relieved. I further suggested that it would be a good thing if some his staff visited the front to see how the other half lived.

It has always been my unfortunate role to be the ray of sunshine and the back slapper before any action, both for those under me and also those above me.

I told Papa of my fear of cowardice and he said that while ages of gentility might make a man of my breeding reluctant to engage in a fist fight, the same breeding made me perfectly willing to face death from weapons with a smile. I think that is true.

Papa always told me that the first thing was to be a good soldier. Next was to be a good scholar.

It is hard to answer intelligently the question, {Why I want to be a soldier.} For my own satisfaction I have tried to give myself reasons but have never found any logical ones. I only feel that it is inside me. It is as natural for me to be a soldier as it is to breathe and would be as hard to give up all thought of being a soldier as it would be to stop breathing.

Being a soldier and being a member of the Army in time of peace time are two different things. I would accept the latter only as a means to the former.

No sacrifice is too great if by it you can attain your goals. Let people talk and be damned. You do what leads to your ambition and when you get the power, remember those who laughed.

I don't ever expect to be sixty years old. Not that it is old, but I simply prefer to wear out from hard work before then.

I do not fear failure. I only fear the slowing up of the engine inside of me which is pounding, saying, 'Keep going, someone must be on the top, why not YOU'?

The only way for a soldier to die is by the last bullet of the last battle of his last war.

I have studied the German all of my life. I have read the memoirs of his generals and political leaders. I have even read his philosophers and listened to his music. I have studied in detail the accounts of every damned one of his battles. I know exactly how he will react under any given set of circumstances. He hasn't the slightest idea of what I'm going to do. Therefore, when the time comes, I'm going to whip the Hell out of him.

It's God awful. It's terrible, that's what it is. I can see it in a vision. It comes to haunt me at night. I am standing there knee deep in the water and all around me as far as the eye can see are dead men, floating like a school of dynamited fish. They are all floating face up with their eyes wide open and their skins a ghastly white. They are looking at me as they float by and they are saying, "Patton,



you bastard, it's your fault. You did this to me. You killed me.” I can't stand it, I tell you. By God, I won't go.

In any war, a commander, no matter what his rank, has to send to certain death, nearly every day, by his own orders, a certain number of men. Some are his personal friends. All are his personal responsibility; to them as his troops and to their families. Any man with a heart would like to sit down and bawl like a baby, but he can't. So, he sticks out his jaw, and swaggers and swears. I wish some of those pious sob sisters at home could understand something as basic as that.

As for the kind of remarks I make, why sometimes I just, by God, get carried away with my own eloquence.

People ask why I swagger and swear, wear flashy uniforms and sometimes two pistols. Well, I'm not sure whether or not some of it isn't my own fault. However that may be, the press and others have built a picture of me. So, now, no matter how tired, or discouraged, or really even ill I may be, if I don't live up to that picture, my men are going to say, “The old man's sick, the old son of a bitch has had it”. Then their own confidence, their own morale will take a big drop.

I get criticized every day for taking needless risks by being too often right up front. What good is a dead general? I say, what damn good is a general who won't take the same risks as his troops?

You must be single minded. Drive for the one thing on which you have decided. You will find that you will make some people miserable; those you love and very often yourself. And, if it looks like you are getting there, all kinds of people, including some whom you thought were loyal friends, will suddenly show up doing their Goddamndest, hypocritical best to trip you up, blacken you, and break your spirit. Politicians are the worst; they'll wear their country's flag in public, but they'll use it to wipe their asses in the caucus room, if they think that it will win them a vote.

It is hell to be old, passé, and to know it.

The attitude of the American people as evinced by the press and radio is such that I am inclined to think that I made a great mistake in serving them for nearly forty years, although I had a very good time doing it.

The more I see of people, the more I regret that I survived the war.

Everything that I say is either misquoted or taken out of context.

Sometimes I think that I will simply resign and not be a further party to the degradation of my country.

During the course of the dinner which I had with Eisenhower on a purely social basis, I stated that I could not hereafter eat at the same table with General Bedell Smith.

If a man has done his best, what else is there? I consider that I have always done my best. My conscience is clear.

I will resign when I have finished this job, which will be not later than December 26th. I hate to do it, but I have been gagged all of my life and whether they appreciate it or not, Americans need some honest men who dare to say what they think, not what they think people want them to say.

I have been studying the subject of war for forty odd years. When a surgeon decides in the course of an operation to change it's objective, to splice that artery or cut deeper and remove another which he finds infected, he is not making a snap judgment, but one based on knowledge, experience, and training. SO AM I!

In the summer of 1918, a group of soldiers of the 301st Tank Brigade, which I commanded, was having 37mm gun practice which I was observing. One defective round exploded in the muzzle, wounding two or three men. The next round exploded in the breech, blowing off the head of the gunner. The men were reluctant to fire the next round, so it was incumbent on me, as the senior officer present, to do so. In fact, I fired three rounds without incident. This restored the confidence of the men in the weapon. I must admit that I have never in my life been more reluctant to pull a trigger.

I still get scared under fire. I guess I never will get used to it, but I still poke along. I dislike the strafing most.

#### POLITICS AND POLITICIANS

Someday I'm going to bust loose across France and be heading hell bent for Berlin. Then either some coward or some dirty politician is going to become worried and order me to stop.

Any politician should be put in jail who votes for an appropriation bill and fails to vote the tax to pay for it.

Churchill strikes me as cunning rather than brilliant, but with great tenacity. He is easily flattered. All of them are.

Millions of pictures were taken and none for the glory of the troops, all for the glory of Roosevelt. It was very disgusting.

There is something very phony about all of our British and American efforts. Our strategy seems to be based on votes, not victories.

Today we received a letter in which we were instructed to give the Jews special accommodations. If for the Jews, why not Catholics, Mormons, etc.?

It is very patent that what our Military Government is trying to do is undemocratic and follows practically Gestapo methods.

No one gives a damn how well Bavaria is run. All they are interested in is how well it is ruined.

It is my belief that when the catchword De-Nazification has worn itself out and when people see that it is merely a form of stimulating Bolshevism, there will be a flop of the pendulum in the opposite direction.

The whole thing is a deliberate mis-quote with the intent of getting me into trouble because I am not pink.

The point which I was and am still trying to bring out is that in Germany practically all or at least a very large percentage of the trades people, small businessmen, and even professional men such as doctors and lawyers were beholden to the Nazi party. Without the patronage of the Nazi party, they could not carry on their business and work at their professions. Therefore, many of them were forced to give lip service to the party. I would extend this to mean that any dues paying by them was nothing but a form of blackmail and a means of holding onto their jobs. If we kick out these people, we will retard the reorganization of Bavaria to the extent that we will certainly be guilty of the deaths by starvation and freezing, of many women, children, and old men this winter.

The utterly un-American and almost Gestapo methods of De-Nazification were so abhorrent to my Anglo-Saxon mind as to be practically indigestible.

It is strange that in a battle situation I am perfectly willing to chop off heads but in peace time, my Anglo-Saxon ancestry makes me reluctant to remove people without due process of law.

Everyone seems to be much more concerned and interested in the effects which his actions will have on his political future than in carrying out the motto of the United States Military Academy; Duty, Honor, Country.

The noise created against me is only the means by which the Jews and Communists are attempting, and with good success, to implement a further dismemberment of Germany.

The whole damned world is going communist.

It is interesting to note that everything for which I have been criticized in the handling of the Germans has subsequently been adopted by our Military Government. I stated that if we took all of the small Nazis out of every job, chaos would result, and it did. The Military Government the other day announced that from two to five percent of Nazis would be permitted to stay in government offices.

Politicians are the lowest form of life on the earth. Liberal Democrats are the lowest form of politician.

The radio this morning said that the C.I.O. wants a bigger New Deal. Where in hell do they think the money comes from? Or, do they simply want to destroy our form of government and go communist? If they knew as much about Russia as I do, they would not be so crazy to be communists.

## PROPHEESIES

It seems like to me that Russia has a certain sphere of influence in Korea, Manchuria, and Mongolia.

There will be those who now and later will vilify and misrepresent me.

I have a hunch that my Mexican Automobile Battle was a forerunner of my involvement with tanks. Who can say?

Roman civilization fell due to the loss of the will to conquer; satisfaction with the status quo; and high taxes, which destroyed trade and private enterprise. These conditions eventually forced people out of the cities. The cycle is returning.

If we again believe that wars are over, we will surely have another and damned quick. Man is War and we had better remember that! Also, we had better look out for ourselves and make the rest of the world look out for themselves. If we attempt to feed the world, we will starve and perhaps destroy America.

The Germans attacked down the Sele River just as I told Gruenther they would, and they have apparently cut the X Corps and the VI Corps in two. The only comfort I got out of it is the fact that my military judgment proved correct. I hope they can stop them. A withdrawal would hurt our prestige and surely prolong the war.

Someone must win the war and also the peace.

There are a host of people who have to squat to piss who will say that this will be the last war and that from now on we will only need world clubs. They are the ones who will be responsible for the deaths of millions of people.

I am very much afraid that Europe is going Bolshevik, which, if it does, may eventually spread to our country.

I really shudder for the future of our country.

The Russians give me the impression of something that is to be feared in future world political reorganization.

ROOSEVELT, FRANKLIN DELANO

A great politician is not of necessity a great military leader.

Thousands of pictures were taken, and none for the glory of the troops; all for the glory of F.D.R.

ROOSEVELT, GENERAL THEODORE R.

He was one of the bravest men that I ever knew.

RUSSIA AND RUSSIANS

We promised the Europeans freedom. It would be worse than dishonorable not to see they have it. This might mean war with the Russians, but what of it? They have no Air Force anymore, their gasoline and ammunition supplies are low. I've seen their miserable supply trains; mostly wagons draw by beaten up old horses or oxen. I'll say this; the Third Army alone with very little help and with damned few casualties, could lick what is left of the Russians in six weeks. You mark my

words. Don't ever forget them. Someday we will have to fight them and it will take six years and cost us six million lives.

One form of securing testimony used by the Russians is to hang a man by his wrists with bandages so that they will not cut or marks will be left. Then, two small incisions are made into the lower abdomen to allow a portion of the intestines to hang out. After the man has taken all that he can stand without dying, he is cut down, the incisions are sewn up, and he is restored to health with the promise that the operation will not be repeated IF he does as he is told.

I believe that by taking a strong attitude with the Russians, they will back down. We have already yielded too much to their Mongolian nature.

There are all kinds of low class slime who are trying and will continue to try to wreck this country from the inside. Most of them don't know it, but they are actually working for the Russians. Some of them do know it, though. It doesn't matter whether they call themselves communists, socialists, or just plain liberals. That is what they are doing.

The Russians are Mongols. They are Slavs and a lot of them used to be ruled by ancient Byzantium. From Genghis Kahn to Stalin, they have not changed. They never will and we will never learn, at least, not until it is too late.

Poland is under Russian domination, so is Hungary, so is Czechoslovakia, and so is Yugoslavia; and we sit happily by and think that everybody loves us.

We have destroyed what could have been a good race of people and we are about to replace them with Mongolian savages and all of Europe with communism.

General Anders of the Polish II Corps told me that if his Corps got between a German Army and a Russian Army he would have trouble deciding which direction to fight.

The one thing which I could not say then, and cannot yet say, is that my chief interest in establishing order in Germany was to prevent Germany from going communist. I am afraid that our foolish and utterly stupid policy in regard to Germany will certainly cause them to join the Russians and thereby insure a communistic state throughout western Europe.

If it should be necessary for us to fight the Russians, the sooner we do it, the better.

We could have arrived sooner but for the fact that if one flies over Russian occupied territory they shoot at you. Nice friends.

If we have to fight them, now is the time. From now on, we will get weaker and they will get stronger.

The difficulty in understanding the Russian is that we do not take cognizance of the fact that he is not a European, but an Asiatic and therefore thinks deviously. We can no more understand a Russian than a Chinese or a Japanese. From what I have seen of them I have no particular desire to understand them except to ascertain how much lead or iron it takes to kill them. In addition to his other amiable characteristics, the Russians have no regard for human life and they are all out sons of bitches, barbarians, and chronic drunks.

It is said that for the first week after the Russians took Berlin, all women who ran were shot and those who did not were raped. I could have taken Berlin if I had been allowed.

The Russians have a lot of new heavy tanks of which they are very proud. The Marshall asked me how I liked them. I said that I did not and we had quite an argument. Apparently I am the first person ever to disagree with him.

At the dinner I stated that in my opinion Germany was so completely blacked out that so far as military resistance was concerned, they were not a menace and that what we had to look out for was Russia. This caused a considerable furor.

I believe that Germany should not be destroyed, but rather should be rebuilt as a buffer against the real danger, which is Russia and it's Bolshevism.

Russia knows what it wants. World domination. And she is laying her plans accordingly. We, on the other hand, and England, and France to a lesser extent, don't know what we want and get less than nothing as the result.

Let's keep our boots polished, bayonets sharpened, and present a picture of force and strength to the Russians. This is the only language that they understand and respect. If you fail to do this, then I would like to say that we have had a victory over the Germans, and have disarmed them, but we have lost the war.

I have never seen in any army at any time, including the German Imperial Army of 1912, as severe discipline as exists in the Russian Army. The officers, with few exceptions, give the appearance of recently civilized Mongolian bandits. The men passed in review with a very good imitation of the goose step. They give me the impression of something that is to be feared in future world political reorganization.

#### SHAEF — HIGH COMMAND

We are in the clutches of the masterminds here with the inevitable result that we are changing our plans more often than our underwear. I have been consulted no more than I was when we went to Sicily.

All of them at SHAEF are scared to death to say anything which might be quoted.

None of those at Ike's headquarters ever go to bat for juniors in any argument with the British. They invariably favor the British. Benedict Arnold was a piker compared to them. That includes General Lee as well as Smith and Ike.

At the moment, I am being attacked on both flanks, but not by the Germans.

May God deliver us from our friends; we can handle the enemy.

If they would give me enough gasoline, I could go anywhere I wanted to.

I have to battle for every yard. It is not the enemy who is trying to stop me, it is they.

It is too bad that the highest levels of command have no personal knowledge of war.

I told Bradley to tell them all to go to hell and we will resign. I would lead the procession.

#### SLAPPING INCIDENT

I am convinced that my actions in this case were entirely correct, and that had other officers had the courage to do likewise, the shameful excuse of battle fatigue instead of cowardice would have been infinitely reduced.

Over 80% of the letters that I have received are for me. Only one letter by a person of education is hostile. The rest are cranks and unsigned, mostly.

Ike and Beedle are not at all interested in me, but simply in saving their own faces. I might act the same if the case were reversed, but I doubt it.

General Joyce, to whom I talked about the Drew Pearson incident remarked, "George, just tell them the exact truth in these words; 'I had been dealing with heroes. I saw two men whom I thought were cowards. Naturally, I was not too gentle with them' ". This is exactly true, but there is no use in repeating it.

The thing which hurts me is that as far as I can see, my side of the case has never been heard. It is like taxation without representation.

I hear that the Gallup Poll says that I am 77% good, 19% bad, and 4% uncertain.

Apparently Drew Pearson has made certain allegations against me in Washington. I had been expecting something like this to happen for some time because I am sure that it would have been much better to have admitted the whole thing to start with, particularly in view of the fact that I was right.

If the fate of the only successful general in the war depends on the statement of a discredited writer like Drew Pearson, we are in a bad fix.

For every man that I have criticized in this Army, I have probably stopped, talked to, and complimented a thousand, but people are prone to remember ill usage more than to recall compliments.

#### SMITH, GENERAL WALTER BEDELL

On the way back, we met General Bedell Smith and General Lemnitzer. They were headed to Messina and I just heard the full story of Smith's actions. One of our batteries of 155mm guns let go, firing into Italy. Smith thought that it was enemy shells arriving and he jumped from the car into a ditch in one long leap, and he refused to leave it, even when Lemnitzer and Murnane told him that it was quite safe. When I got back, he was still pale, gray, and very shaky.

Beedle also said that due to my unfortunate remarks, the permanent promotion of himself and me might never come off. How sad!

Beedle Smith arrived and, as usual, was very assertive, and, as usual, he knew nothing. Bradley took him down hard and he was better thereafter.

Ike and Beedle are not at all interested in me, but simply in saving their own faces. I might act the same if the case were reversed, but I doubt it.

Smith is certainly an S.O.B. of the first type; selfish, dishonest, and very swell headed.

During the course of the dinner which I had with Eisenhower on a purely social basis, I stated to him that I could not hereafter eat at the same table with General Bedell Smith.

## SOLDIERS, AMERICAN

Of course, our men are willing to die, but that is not enough. We must be eager to kill, to inflict on the enemy, the hated enemy, all possible wounds, death and destruction. If we die killing, well and good. But, if we fight hard enough, viciously enough, we will kill and live to kill again. We will live to return to our families as conquering heroes.

When the great day of battle comes, remember your training. And remember, above all, that speed and vigor of attack are the sure roads to success and that you must succeed. To retreat is as cowardly as it is fatal.

We are ready. I shall be delighted to lead you men against any enemy. I am confident that your disciplined valor and high training will bring victory.

Put your heart and soul into being expert killers with your weapons.

To achieve harmony in battle, each weapon must support the other. Team play wins. You musicians of Mars must not wait for the band leader to signal to you. You must, each of your own volition, see to it that you come into this concert at the proper time and at the proper place.

There is a growing instance in this division of a disease common to this motorized age. It is called waffle-ass and results from sitting down too much.

The fear of having their guts explored with cold steel in the hands of battle maddened men has won many a fight.

To me, it is a never ending marvel what our soldiers can do.

Now that sounds like “what a great man George Patton is”, but I did not have anything to do with it. The people who actually did it are the younger officers and the soldiers of the Third Army.

I believe that in war, the good of the individual must be subordinated to the good of the Army.

This ovation is not for me, George S. Patton. George S. Patton is merely a hook on which to hang the Third Army.



The soldier is the army. No army is better than the soldiers in it. To be a good soldier, a man must have discipline, self confidence, self respect, pride in his unit and in his country. He must have a high sense of duty and obligation to his comrades and to his superiors.

All of our soldiers do not drink like beasts. In fact, the lack of drinking in our Army is remarkable. They do, however, act like babies.

Who ever saw a dirty soldier with a medal?

The psychology of the fighting man is a strange thing. Early, well before dawn, I watched men of an almost green division, who were soaking wet and cold, cross a swollen river in the face of steep hills which were packed with concrete gun emplacements, machine guns, mines, and barbed wire. They crossed without hesitation and they walked right through that concentration of fire. They never hesitated once. Later in the day, I came across another outfit which was stalled along an open road. Do you know what was holding them back? It was a length of yellow string which was tied across their path between trees. No one in the outfit dared to touch it. It guess that it is the unknown which a man faces that he is scared of.

Anything that my men fight for and capture, they are entitled to and that includes fraternization.

Soldiers are always contrary. I could issue them coats without buttons and I will bet that within twenty four hours they would find some, sew them on, and keep them buttoned.

The spirit of the men in the Evacuation Hospitals was improving and the incidence of 'battle fatigue' and of self-inflicted-wounds had dropped materially. Soldiers like to play on a winning team.

Men who are apt to die in battle are entitled to what pleasures they can get.

There were about three hundred 500 pound bombs and seven tons of 20mm high explosive shells piled on the sand and these soldiers had dug themselves foxholes in between the bombs and the boxes of ammunition.

It was funny to see our men sitting down among the German corpses and eating their lunches. Our men are pretty hard.

It was the superior fighting ability of the American soldier, the wonderful efficiency of our mechanical transport, the work of Bradley, Keyes, and the Army Staff that did the trick. I just came along for the ride. I certainly love war.

One poor fellow had lost his right arm and he cried. Another had lost a leg. All of them were brave and cheerful. A first sergeant who was in for his second wound laughed and said that after he received his third wound he was going to ask to go home. I had told General Marshall months ago that an enlisted man who had been hit three times should be sent home.

Our men are really grim fighters. I would hate to be the enemy.

This war makes higher demands on courage and discipline than any war of which I have known. But, when you see men who have demonstrated discipline and courage, killed and wounded, it naturally raises a lump in your throat and sometimes produces a tear in your eye.

#### SPAATZ, GENERAL CARL

General Spaatz came to see me. As usual, he was dirty and unshaven.

#### SUMMERSBY, LIEUTENANT KAY

Ike asked me to dinner; Kay, Butcher, a British aide-de-camp, and a WAAC captain were present. Ike was very nasty and show-offish. He always is when Kay is present.

Prince Bernhard of Holland decorated a number of SHAEF officers, including Lieutenant Summersby. The last one was in a high state of nerves as a result of hearing that General Eisenhower is not returning.

#### TRUSCOTT, GENERAL LUCIAN K.

His promotion has been well deserved and he has invariably done a good, though never brilliant, job. I am very proud of him.

#### UNIVERSAL SERVICE (CONSCRIPTION)

I am firmly convinced that we must have a universal system of training. The only hope for a peaceful world is a powerful America with the adequate means to instantly check aggressors. Unless we are so armed and prepared, the next war will probably destroy us. No one who has lived in a destroyed country can view such a possibility with anything except horror.

Fires are not put out by disbanding the fire department and wars are not prevented by destroying a country's armed forces.

We will have no real Army until we have universal service.

#### WALKER, GENERAL WALTON H.

Walker is a very fine soldier. He has never complained about any order that he has received.

Walker called up late and asked if he could continue a serious attack. I told him to go ahead.

Milly and Troy are starting again Sunday and Walker keeps pitching all the time.

General Walker is always the most willing and most cooperative. He will apparently fight anytime, anyplace, with anything that the Army Commander desires to give to him.

#### WAR, STRATEGY, AND TACTICS

Exploitation signifies that the situation is such as to at least justify the hope that there is something to exploit. In other words, that the crust has just been broken, and we are about to eat the pie.

Due to subconscious memories of prehistoric arboreal existence, man possesses an inherent instinct for secretive movements. Owing to this fact, instructors are prone to display exaggerated interest and ingenuity in hide-and-seek tactics.

Over-stressing the value of concealment has a further disadvantage due to the psychological effect produced on the soldier. Just as children often create terrors from the fertility of their own imaginations, so do soldiers create in themselves visions of an omnipresent and deadly enemy.

In battle, the soldier enters a lottery with death as the stake. The only saving clauses in this gamble lie in time and the demoralizing effect produced on the enemy by the rapid and uninterrupted advance of the attacker.

My policy of continuous attack is correct. The farther we press, the more stuff we find abandoned that should not be abandoned. The Italians are fighting very well in the face of defeat. They must crack soon.

Sitting on a tank watching the show is fatuous, killing wins wars.

Each time we fight with only one weapon when we could use several weapons, we are not fighting and winning a battle; we are making fools of ourselves.

People must try to use their imagination. When orders fail to come they must act on their own best judgment. A very safe rule to follow is that in case of doubt, push on a little further and then keep on pushing.

I am obsessed with the idea that tanks should be used as quail shooting weapons, and not as buffaloes.

You can kill more soldiers by scaring them to death from behind with a lot of noise than you can by attacking them from the front.

I think that it is worthy to note that the primary function of an Armored Force is to disrupt command, communications, and supply.

Death in battle is a function of time. The longer troops remain under fire, the more men get killed. Therefore, everything must be done to speed up movement.

I am sometimes appalled at the density of human beings. I am also nauseated by the fact that Hodges and Bradley state that all human virtue depends on knowing infantry tactics. I know that no general officer and practically no colonel needs to know any tactics. The tactics belong to battalion commanders. If generals knew less tactics, they would interfere less.

We received a number of replacement captains. I initially assigned them to companies under lieutenants until they had learned the ropes. While this is not authorized in the regulations, I did it in both this and the First World War, and it works.

One of the chief defects of an airborne division is the fact that it never has anything it needs after it lands. No tanks, no adequate artillery, and no transportation.

General Eddy called me to state that his allowance of shells for the 16th was nine thousand, but I told him to go ahead and shoot twenty thousand, because I see no need in hoarding ammunition. You either use it or you don't. I would lose more men by shooting nine thousand rounds a day for three days than I would by shooting twenty thousand in one day, and probably would not get as far. I believe in fighting until lack of supplies forces you to stop, then digging in.

Throughout history, campaigns and wars have been lost due to an army stopping on the wrong side of a river.

The tank must be used boldly. It is new and always has the element of surprise. It is also terrifying to look at as the infantry soldier is helpless before it.

Despite the oceans of ink and years of thought which have been devoted to the elucidation of war, it's secrets still remain shrouded in mystery. Indeed, it is due largely to the very volume of available information that the veil is so thick. War is an art and as such it is not susceptible to explanation by fixed formulae. Yet, from the earliest time there has been an unending effort to subject it's complex and emotional structure to dissection, to enunciate rules for it's waging, to make tangible it's intangibility. One might as well attempt to isolate the soul by the dissection of a cadaver as to seek the essence of war by the analysis of it's records.

Civilization has affected us. We abhor personal encounter. Many a man will risk his life, with an easy mind, in a burning house who would recoil from having his nose punched. We have been taught restraint from our emotions, to look upon anger as low, until many of us have never experienced the God sent ecstasy of unbridled wrath. We have never felt our eyes screw up, our temples throb, and have never had the red mist gather in our sight. But, we expect that a man shall, in an instant, in the twinkling of an eye, divest himself of all restraint, of all caution, and hurl himself upon the enemy, a frenzied beast, lusting to probe his enemy's guts with three feet of steel or to shatter his brain with a bullet. Gentlemen, it cannot be done without mental practice. Therefore, you must school yourselves to savagery. You must imagine how it will feel when your sword hilt crashes into the breastbone of your enemy. You must picture the wild exaltation of the mounted charge when the lips are drawn back into a snarl and the voice cracks with a passion. At one time, you must be both a wise man and a fool.

Strategy and tactics do not change. The means only of applying them differ.

You must never halt because some other unit is stuck. If you press on, you will relieve the pressure on the adjacent unit and it will accompany you.

War is conflict. Fighting is an elemental exposition of the age old effort to survive. It is the cold glitter in the attacker's eye, not the point of the questing bayonet, that breaks the line.

As a man who has seen something of war, I am more impressed with the manly virtues it engenders than with the necessary and much exaggerated horrors attendant upon it.

The fierce frenzy of hate and determination flashing from the bloodshot eyes squinting behind the glittering steel is what wins wars.

Volumes are devoted to armament; pages to inspiration.

Since the necessary limitations of map problems inhibit the student from considering the effects of hunger, emotion, personality, fatigue, leadership, and many other imponderable yet vital factors, he first neglects, and then forgets them.

The fixed determination to acquire the warrior soul, and having acquired it, to conquer or perish with honor, is the secret of success in war.

War is not a contest with gloves. It is resorted to only when laws, which are rules, have failed.

The atomic bomb is simply a new instrument in the orchestration of death, which is war.

Use steamroller strategy; that is, make up your mind on course and direction of action, and stick to it. But in tactics, do not steamroller. Attack weakness. Hold them by the nose and kick them in the ass.

Since our progress from now on had to be along the lines of what General Allen called the 'rock soup' method, I will describe it. A tramp once went to a house and asked for some boiling water to make Rock Soup. The lady was interested and gave him some water, into which he placed two polished stones. He then asked if he might have some potatoes to flavor it a little, and then some carrots, and finally some meat. In other words, in order to attack, we had to first pretend to reconnoiter, then reinforce the reconnaissance, and finally put on a attack; all depending upon what amount of gasoline and ammunition we could secure.

I also re-read the Norman Conquest by Freeman, paying particular attention to the roads used by William the Conqueror during his operations in Normandy and Brittany. The roads used in those days had to be on ground which was always practical.

War is just like boxing. When you get your opponent on the ropes you must keep punching the hell out of him and not let him recover.

Remember this; no set piece of tactics is of any merit in itself unless it is executed by heroic and disciplined troops who have self confidence and who have leaders who take care of them.

We all feel that indiscriminate bombing has no military value and that it is cruel and wasteful and that all such efforts should always be on purely military targets and on selected commodities which are scarce for the enemy. In the case of Germany, the target would be oil.

War is the culmination of convergent commercial and political interests. Wars are fought by soldiers, but they are produced by businessmen and politicians.

Commanding an army is not such a very absorbing task except that one must be ready at all hours of the day and night to make some momentous decision, which frequently consists of telling somebody who thinks that he is beaten that he is not beaten.

## WEAPONS

While in France in 1918, I was directed to report on the military value of a machine going by the euphonious name of the Moving Fort And Trench Destroyer. An elaborate set of blueprints

accompanied the description of the horrid instrument. Those prints depicted a caterpillar propelled box of generous proportions covered with two inch armor and bearing in it's bosom six 75s, 20 machine guns, and a flame thrower while in the middle was a rectangular box 6 by 3 by 2 feet in size with the pathetic epitaph, "engine not yet devised". I do not know if atom bursting was known at that date, but if it was, I feel certain that an engine actuated by that sort of power must have been intended as no other form of power occupying so small a space could have propelled the 200 tons of estimated weight of the fort.

Certainly, the advent of the atomic bomb was not half as startling as the initial appearance of gunpowder. In my own lifetime, I can remember two inventions, or possibly three, which were supposed to stop war; namely the dynamite cruiser Vesuvius, the submarine, and the tank. Yet, wars go blithely on and will still go on when your great grandchildren are very old men.

Wars may be fought with weapons, but they are won by men. It is the spirit of the men who follow and the man who leads that gains victory.

Today, machines hold the place formally occupied by the jawbone of an ass, elephant, armor, longbow, gunpowder, and submarine. They, too, shall pass.

The wrestling adage, "There is a block for every hold" is equally applicable to war. Each new weapon demands a new block and it is mightily potent until that block is devised.

The glory of the skyrocket elicits our applause, the splash of it's charred stick is unnoticed.

The initial appearance of each new weapon or military device has always marked the zenith of it's tactical effect, though usually the nadir of it's technical efficiency.

Each form of specialist, like the aviators, the artillerymen, or the tanks, talk as if theirs was the only useful weapon and that if there were enough of them used, the war would soon end. As a matter of fact, it is the doughboy, in the final analysis, who does the trick.

It is very easy for ignorant people to think that success in war may be gained by the use of some wonderful invention rather than by hard fighting and superior leadership.

Headquarters 304th Brigade (1st Brigade) Tank Corps  
302nd Center, Tank Corps  
December 16, 1918

From: Colonel George S. Patton, Jr.  
To: Chief of Staff, G3 H.Q., Tank Corps, A.E.F.  
Subject: Report of Personal Experiences in the Tank Corps

The first experiences by this officer in the Tank Corps was November 16, 1917, when he was sent to the French Tank School at Champlieu, near Compiègn. He and Captain Elgin Brain, Tank Corps, were the first two officers detailed to the Tank Corps and were sent to this school to learn everything possible in connection with the French Tanks. At this place every opportunity was given the officers concerned and they made very excellent progress. Five of the alterations recommended by them having been at once adopted by the French Tank Corps. On leaving Champlieu, Colonel Patton went to Albert and had the pleasure of seeing the last day of the battle of Cambrai, November 30, 1917. On returning to Langres he and Captain Brain collaborated in a report which has been the basis for the organization of the American Tank Corps.

On December 16th, 1917, Colonel Patton and Captain Brain went to Langres where they reported to the Commandant of the Army Schools for the purpose of establishing a Tank School. The establishment of this school is interesting because of the smallness of it's beginning.

For the first month there were no officers available for instruction. Finally, ten temporary second lieutenants, Coast Artillery, reported. As there was no school of Tanks and no Tanks available, these men were sent to the Infantry Specialist Schools for a course in 37mm guns and to the Automatic Weapon School for a course in Machine Gun. Two weeks later, an additional eighteen officers from the same source arrived and were put through the same courses. In February, 1918, Colonel Patton was sent to a Replacement Division near Tours to select two hundred men as a nucleus for the Tank Corps. Thanks to the hearty assistance of Colonel Hennessy, Personnel Officer of this Division, the men selected were of the most excellent character. They arrived at Langres in February, 1918, and were billeted for three days in the town of St. Geomes.

On February 22nd, the entire personnel, officers and men, moved to the town of Bourg, eight kilometers south of Langres. The only transportation was one condemned Atlas Truck which was obtained through the courtesy of General Brewster, Inspector General, and three machine guns borrowed from the Automatic Weapon School. With this very limited material, all of the men were given a course in gas engines, theoretical and practical and in the theory and practice of machine guns.

About the first of March, some lumber was obtained from G4, G.H.Q. and using the men of the Tank Corps for labor, a Tank Shed was constructed in the Bois Sur Marne.

About the middle of March, ten Renault Tanks arrived. At the time the only officer in the Corps who had ever driven a Renault Tank was Colonel Patton. In detraining these tanks, it was necessary for him to drive each tank off the train. The Tanks were then lined up along the road and nine men were selected to act as drivers. These men had never seen a Tank before but knew something of gas engines as the result of the Atlas Truck experience. It is worthy of note that in this first debarkation of Tanks, by American Troops, totally inexperienced as just stated, all tanks arrived in the Tank Shed two and one-half hours after the train had halted at the crossing. This

shows the adaptability of the American Soldier, for totally inexperienced as they were, they drove the Tanks by night a distance of over two kilometers and landed them without accident at the designated point.

From this time on, the instructions became more efficient and all of the tanks were worked for a period of ten hours daily. This work was conducted under the most adverse circumstances as for the first two months, no machinery was available except the monkey wrenches and screwdrivers which came with the Tanks.

In April, the first tank maneuvers were held in conjunction with the Candidate Battalion of the Army School. This maneuver was a splendid success and it is believed was largely responsible in convincing a great number of the Staff Officers who witnessed it, the efficiency of the Light Tank.

In June, fifteen additional Renault Tanks were received, making a total of twenty-five. It was then possible to have company maneuvers.

As the days had become very long, a schedule was arranged by which general driving instructions were given. Each morning, one company maneuver was held from one p.m. until six p.m. and a second company maneuver from six p.m. to midnight. The experience gained in this night work proved invaluable in our later experiences in battle.

While more tanks were arriving, additional men and officers were coming in and by the first of August, it was possible to organize two Tank Battalions. Each about fifteen percent short in personnel and at the same time leaving twenty-five N.C.O.s, instructors for work at the school. The spirit of the men during all of this time was most wonderful for in spite of working six days a week and having inspections on Sunday, and in spite of building roads, buildings, sheds, etc., there was not the least complaint; each man and officer doing his very best every moment of the day.

On August 20th, Colonel Patton was directed to report to the Commanding General of the 5th Corps, to make a preliminary reconnaissance of what eventually proved to be the St. Mihiel Offensive. During the reconnaissance, an incident occurred which showed the absolute necessity for a tank officer to personally see the ground.

The 5th Corps was to operate in the vicinity of VilleenWoivre. All the intelligence reports of this section stated that the ground was an impassable swamp. We went to various O.P.s and all the observers confirmed this statement, yet the evidence of our eyes seemed to belie it. We, therefore, succeeded in arranged to participate, with the French who held the sector, in a raid.

This we did and we made a personal inspection of the ground up to the third line of German wire, passing through two lines of wire without opposition. As a result of this, it became clear that neither the wire, which had been reported dreadful, nor the ground, which had been reported impassable, were as stated. The next day we were able to state by our personal knowledge that an attack could be made in this sector. Reconnaissance here was completed and the wires laid to our advance C.P., but when everything was ready, a change in plans of the Higher Command required that we cooperate with the 4th instead of the 5th Corps. For this purpose, we moved to the Toul front and recommenced our reconnaissance here. Again, the advantage of personal observation by the Tank Commanders was absolutely demonstrated. All reports, even by our own Infantry, stated that the ground to the west of the Rupt de Mad was impassable for tanks and the map showed three streams crossing our proposed route. A daylight reconnaissance in "No Man's Land" proved



that these streams were perfectly dry and consequently offered no obstacles to tanks. In this connection it may be interesting to point out that the Madine, a tributary of the Rupt de Mad was also impassable and believing the evidence of the map we laid our plans accordingly. The advance of the 26th proved that the Madine also was no obstacle to the tanks.

#### BATTLE EXPERIENCE:

When the brigade attacked, on September 12, 1918, the Commanding Officer accompanied by his Reconnaissance Officer, and three runners, moved forward to gain touch with the 345th Battalion and the French Tanks which were invisible from the only battle C.P. available.

We arrived near Essey, France, about ten a.m. and passing through the German barrage which was not heavy, we entered the town. Here we found General MacArthur and his aide with four or five Infantry soldiers. Our party here took about ten Germans who seemed very anxious to surrender. We then asked General MacArthur if we could move the tanks forward across the bridge at Essey which, contrary to expectations, was found intact. He gave consent, if the bridge was not mined. We walked over the bridge in a most catlike manner expecting to be blown to heaven any moment, but to our great relief, found that the bridge had not been tampered with.

We then moved the only three available tanks along the road towards Pannes, two to the east of the road and one to the west, but to our regret, two of these tanks ran out of gasoline halfway between Essey and Pannes. Being very tired, Colonel Patton, Lieutenant Knowles, and one remaining runner mounted on the Tank and moved forward towards Pannes. Upon reaching the latter town, the Infantry, who had been following us, stated that the town was held and they would not enter it. To reassure them, we rode into the town on the Tank.

While this was, perhaps, good for the Infantry, it was certainly not without embarrassment for us, as we continually expected to be shot off our precarious perch. At the north end of the town we saw one German. Lieutenant Knowles and Sergeant Graham, the runner, got off the tank to affect the capture. To their great surprise, they found thirty instead of one, but using their pistols they captured the entire crew.

The tank continued out of the northern end of the town and advanced across the field. Colonel Patton, who was still sitting on the top of the tank, here had the most horrible experience. He could hear machine gun fire, but could not locate them until glancing down the left side of the tank about six inches below his hand he saw the paint flying from the side of the tank as the result of numerous machine gun bullets striking against the tank. Owing to his heroic desire to make the tank a less enticing target, he leaped from the tank and landed in a shell hole a great distance away. This shell hole, however, was exceedingly small and the Germans took an unpleasant delight in shooting at it's upper rim so that the Colonel was greatly perturbed at finding himself covered with dirt. His embarrassment was enhanced by the fact that the tank, unaware of this, continued into the field, while the Infantry, which had passed through the village, was halted about two hundred meters behind the Colonel.

He was in a great state of perplexity. If he moved backwards and conducted a strategic withdrawal, the Infantry would think a tank officer was running away. Should he move forward, he would become a distinct target of the four machine guns which he was now able to see about five hundred meters to his front. He finally solved the problem by moving sideways until he regained

the Infantry. During the course of this movement, he was repeatedly forced to seek shelter in small shell holes.

On reaching the Infantry, he asked them if they would move forward. This they refused to do. He then asked them if they would send a runner to the tank which was cruising about in the field some five hundred meters to the front. To this request the heroic Infantry made the reply, "Hell, no. It ain't my tank." Colonel Patton was then faced with the unfortunate necessity of going for the tank himself. This he did in record time and without accident.

When he and the tank returned to the Infantry, four other tanks had arrived and by arranging the five in line, the Colonel again moved forward against the machine guns. The infantry again refused to go forward, stating strategic reasons which did not seem good, but Colonel Patton, being of generous disposition, decided that he would not a second time act as a runner, so he delegated that honor to Lieutenant Phillips, who had just come up.

Lieutenant Phillips successfully withdrew the tanks to the town, but the appearance of five tanks had so disheartened the Germans that they could be seen retreating far below the town of Pannes. The Infantry then courageously offered to advance and the tanks for a third time were sent forward. During the course of this third advance, the right end tank opened fire on an advanced American machine gun which it mistook for a German gun. The first shell struck just short of the emplacement. Colonel Patton then asked the Infantry machine gun officer to apprise it of it's error. The machine gun officer replied in the same language as the heroic Battalion Commander above mentioned and it was necessary for Colonel Patton to again act as runner. This time, however, he did so with less speed since there was very little fire.

This third advance of the tanks finally proved successful and the town of Bassey was taken by the tanks alone since, just before reaching it, the Infantry swerved off to the right. Colonel Patton then having lost all of his runners and his Reconnaissance Officer, decided to hunt for his left Battalion, which was supposed to be at the town of Nonsard.

In the course of this hunt moving along the front line of Infantry which at this time, about two o'clock, was digging in. From the result of his walk, it certainly appeared that had the Germans counter attacked at this time, great results from a German standpoint of view would have been attained as the entire Infantry line was in a state of extreme disorganization.

On reaching the town of Nonsard, it was found to be in possession of by our Infantry, having been taken unaided by Major Brett with three tanks; Major Brett having personally killed two German machine gunners in the tower of the church.

The 13th of September was uneventful except that it marked a long struggle to obtain gasoline for the tanks and clearly showed the necessity for having large caterpillar tractors with each tank battalion to carry gasoline across country since the roads were so congested that it took thirty two hours to move two trucks of gasoline fourteen kilometers.

On the night of the 13th, Major Brett started for the town of Vignuelles with fifty-seven tanks. Colonel Patton rejoined him here on the morning of the 14th at five a.m. and they proceeded with fifty tanks in the direction of Saint Maurice. Here they arrived about eight a.m. and found a German warehouse partly burned from which they obtained some gasoline and a large quantity of cigars, hard bread, and blankets. They then proceeded towards Woel.

When about two kilometers from this town they were informed by General Nolan, whom they met in an automobile, that the Germans were just beyond Woel and that Woel, itself, was held by a patrol of twenty French soldiers. General Nolan was unable to give any information as to the whereabouts of the First Division, which was the division that Major Brett's battalion was seeking. General Nolan was asked if the tanks might attack the Germans west of Woel without Infantry. He advised against this and the tanks were hidden in the bushes on either side of the road. Patrols were sent out to the north and south in an attempt to find American Troops and in spite of the fact that these patrols were mounted on stolen horses, it was impossible to find any American soldiers.

At twelve o'clock, Lieutenant McCluer, with three tanks and five runners, was sent out to make a patrol through Woel and to the south. At two o'clock, he reported that he was attacked by German Infantry, machine guns, and Artillery, and was counter attacking. Five tanks, under Lieutenant (now Captain) Grant were sent to his assistance. These eight tanks drove the Germans, who amounted to about a company with a battery of 77's and a platoon of machine guns, a distance of six kilometers through the town of Jonville, situated on the Hindenburg Line. The country here was ideal for tanks and the results obtained show the tremendous effect which a few tanks may produce against an enemy whose moral is not of the highest order. While the tanks were waiting for the return of the attacking patrol, they were shelled with all calibers of German artillery, and two German aeroplanes flew continually over them indicating their position by the use of tracer bullets. Fortunately, no tanks were struck.

The brigade then moved to the Argonne.

During the debarkation of the 345th Battalion, an incident occurred. When all but four tanks had been debarked, the Germans got the range of the station at Clairmont and several shells struck near the train. One shell striking the flat car two cars back of the last tank at the same moment a temporary ramp broke and it appeared that we would lose some tanks before it could be repaired. Thanks, however, to the courage of Captain Williams, Tank Corps, this accident was avoided.

Captain Williams, using his great strength, pushed the broken ramp to one side and signaled the tanks to move off the train. This they did by dropping off the end of the flat car one after the other without any accident to the tanks. The "laying in" position for the Brigade at this point was a little wood in a field about three kilometers north of Clairmont. All of the American Tanks entered this wood under cover of darkness, but one belated French Tank moved past it at about eight a.m. and must have been spotted by the Germans. Fearing that this did occur, the American Tanks that night moved to another woods and about midnight the woods that they had just evacuated was heavily and accurately shelled by the German Artillery.

In the approach march of the night of September 25 – 26, it was necessary for four companies of tanks to cross the bridge at Neuville. Just as the leading tank got there the German barrage opened on this bridge, killing two M.P.s stationed at this bridge. The tanks were halted and the moment the fire ceased, one company was rushed across. The Germans renewed their firing, but by taking advantage of the intervals which they regularly gave, all tanks crossed the bridge without accident.

During the attack on the morning of September 26th, the leading tank encountered a German mine field, but thanks to the courtesy of the Germans in leaving up warning signs, the tanks avoided this danger. Later, the tanks became stuck in the trench and after considerable difficulty some Infantry were persuaded to help take them across. During the course of this operation Captain English and

Colonel Patton chained three tanks together and due to the courage of the drivers who maneuvered with their doors open, it was possible to get all of the tanks across. It is believed that without men of the greatest coolness, such a maneuver would have been impossible and the drivers who followed the hand signals of the officers as mentioned, deserve the greatest credit.

Personal experience of Colonel Patton did not go beyond this point as he was wounded about this time. He, however, knows for a fact that about nine o'clock on that morning three tanks under Lieutenant Morrison performed seemingly an impossible task in mounting to the top of Voquois, where the Infantry informed them there were German machine guns. Because of the huge crater at the top of this mountain, their feat was useless, but it shows what tanks, driven by good men, can do.

The following incidents are reported by officers who witnessed them and the authenticity is vouched for.

In one case, the tanks were attacking some German machine guns when one of our machine gun tanks jammed its piece about one hundred meters from a German gun. The tank crew was determined to crush the gun with their track. This they did, but to the credit of the German gunners, be it stated that these two men remained at their gun and fired until they were both crushed to death by the tank. Their gallant conduct was not useless in that owing to it, both members of the tank crew became casualties inasmuch as flying splinters came through the eye-slits.

Another case; a great pillbox was encountered so situated that a tank could not fire at it at sufficient short range to hit the embrasure. The tank crew using great presence of mind drove right up to the pillbox and placed the side of the tank against the embrasure, thus completely effacing the fire. Some runners of the Tank Corps then came up and, dropping some German grenades through the hole, killed the crew inside.



G.S. Patton, Jr.  
Colonel, Tank Corps  
Commanding the Brigade

## PERSONAL GLIMPSES OF GENERAL PERSHING

By First Lieutenant George S. Patton, Jr., Cavalry

1924

When one attempts to recite personal reminiscences of the great of this earth, there is a very real danger that the recounter will use his subject simply as a foil or an excuse for self glorification.

Knowing this tendency, I shall strive to sin as little as possible, giving as my excuse for the frequent use of the first personal pronoun, the fact that I am telling only what I personally know.

My service with General Pershing began in this way. On the day after the Columbus, New Mexico raid in March, 1916, I was Officer of the Day at Fort Bliss, Texas. I learned by grapevine methods and good eyesight that a Punitive Expedition was in progress of formation, gleaning at the same time the knowledge that my regiment was not to form a part of it. Being, however, determined to participate, I got permission to speak to the General and asked him to take me to Mexico in any capacity. He replied, "Everyone wants to go; why should I favor you?" "Because," I replied, "I want to go more than anyone else." This modest reply failed to get any answer except a curt, "That will do."

Fortune in the form of an alleged wire tapper, whom I apprehended, favored me so that I saw him again and renewed my request, with similar results. Undiscouraged, I then went home and packed my bedding roll and saddle. At five o'clock next morning the telephone rang and on answering it, the General's voice inquired, "Lieutenant Patton, how long will it take you to get ready?" When he heard that I was ready, he exclaimed, "I'll be Goddamned. You are appointed aide."

It was three years before I learned from him why he took me. It seems that in 1898, Lieutenant Pershing was an instructor at West Point. The policy was that no instructors would go to the war. Lieutenant Pershing used every normal means to secure an exception and finally went AWOL to Washington where, by a line of talk similar to the one I employed on him in 1916, he secured the detail to Cuba

The malicious have spoken of General Pershing as the "Tailor Made" general. On reaching Columbus, New Mexico, his first order was to reduce all officer's baggage to fifty pounds, and fearing that the zeal of his aides might unduly form his own, he personally weighed it entering the campaign with but thirty-nine pounds.

From March until the end of May he slept on the ground without a tent, doubling up with one of his aides for the additional warmth secured by the two blankets, but no frost nor snow prevented his daily shave so that by personal example he prevented the morale destroying growth of facial herbage which hard campaigns so frequently produce.

On the first march from Culverson's Ranch, New Mexico, to Colonia Dublan, Mexico, the General rode a borrowed artillery horse (his own was marching with the Infantry on the Columbus route), one hundred and twenty miles in thirty hours, elapsed time. It is interesting to note that on this march our first halt, thirty miles into Mexico, was at a pile of huge rocks, where Lieutenant Pershing, commanding a troop of Indian Scouts, had fought the Apaches.

During our first stay at Dublan, March 1916, the General made frequent motor, or better, Ford trips to our advanced detachments thirty to fifty miles in the front and never carried anything except one blanket and his toilet articles.

When he moved forward to a place called San Herinomo Ranch, the American Punitive Expedition Headquarters consisted of the General, Colonel J. Ryan (Intelligence Officer), myself, a stenographer, a cook, three drivers, and four soldiers. For days at a time there were no other troops within miles. The office consisted of a box in front of the Dodge car which now carried the General and whose headlight formed his only reading lamp. Shortly after the battle of Guerrero, I was sent to find General Dodd and failed to locate him. Two days later, it was requisite to send orders to the 11th Cavalry located somewhere in Mexico to the south of us. Almost a needle in a haystack. As I started, the General shook me warmly by the hand saying, "Be careful, there are lots of Villiastas." Then still holding my hand he said, "But remember, Patton, if you don't deliver that message, don't come back." It was delivered! There are some soft-headed and softer-hearted people who would consider this hard treatment. Neither then nor since, have I so thought of it. The first duty of a commander is to his troops. The life of an officer, even a warm, personal friend, cannot and must not be counted. He would have hesitated as little to send his own son on such an errand with a similar warning. All honor to him for his courage.

The evening of the Paral fight (of which we then knew nothing) the General decided to move to a place called Satavo, four hundred and eighty miles south of the border. We knew that the 11th Cavalry, a squadron of the 13th, and another of the 10th were in that direction, but could get no reports. The move was for the purpose of getting closer to them and of gaining touch by means of airplanes which were to fly to, and join us in the morning.

The trip was made in three open cars and our force all told was fifteen men with nine rifles. The country to be traversed consisted of ninety miles of unmapped and semi-hostile mountain and desert. Night came on, when suddenly the headlights of the leading car in which I rode as guide showed an armed Mexican, blocking our way, while in the bushes on either side a veritable army seemed to lurk. The leading car stopped while, according to previously issued orders, the second car with the General, came up on it's right; the third car on the right of the second, thus sandwiching the General's car between the other two. The eight soldiers sprang out and took their allotted places to cover all avenues of attack. With halting Spanish and beating heart, I rushed forward to solve the problem, always most difficult, as to the friendliness or hostility of the Mexicans. I had just prejudiced my hope of eternal salvation by a valuable description of ourselves as the advance guard of an automobile regiment when the General appeared at my side and frustrated my efforts at deception by declaring himself to be General Pershing, and demanding, "Why in Hell," these people dared to stop him. For a moment I had visions of a second Mountain Meadow Massacre with ourselves in the role of victims, but the commanding presence of the General and his utter disregard of danger overawed the Mexicans and we went on, though personally it was more than a mile before I ceased feeling bullets entering my back. Two hours later a convoy of three trucks with airplane spare parts and gas was attacked by these same Mexicans. The incident inspires the statement attributed to Caesar that, "Fortune favors the brave."

Some months later, while returning from an antelope hunt, the car broke down and the General decided to walk to camp four miles distant. I dare not state the incredibly short time in which he covered the distance, but I know that the guide and myself who accompanied him were lame for three days, due to our efforts to keep up. (Four miles in fifty minutes).

As a soldier, I have always regretted that the regiments of the Punitive Expedition which marched out of Mexico in February, 1917, were not sent as a unit into the World War. They were the finest body of men I have ever seen and trained to the minute. The months of "watchful waiting" at Dublan and Namaquipa from June, 1916, to February, 1917, had little waiting so far as we were concerned. Under the personal supervision of the General, every unit went through a complete course in range and combat firing, marches, maneuvers, entrenching, and combating exercises with ball ammunition. Every horse and man was fit; weaklings had gone; baggage was still at the minimum and discipline was perfect. When I speak of supervision I do not mean that nebulous staff control so frequently connected with the work. By constant study, General Pershing knew to the most minute detail each of the subjects in which he demanded practice, and by his physical presence and personal example and explanation, insured himself that they were correctly carried out.

When the Baltic sailed from New York on May 28, 1917, the thoroughness of the General's nature again came to evidence. The second day out all officers were divided into sections for the study of French. The more fluent and the interpreters acting as instructors; the General himself joining regularly in the lessons.

Of his arrival in England on June 7th, and in France on June 13th, much has been written. Perhaps I may be pardoned if I insert here an incident of my own experience.

I commanded the Headquarters Troop, A.E.F., then consisting of forty-six enlisted men. We were quartered in the Tower of London, attached to a battalion of the Honorable Artillery Company, and by them treated in every way as friends and brothers. Our entry into that historic fortress; marking as it did the only occasion on which foreign troops have ever marched through that venerable portal save in the guise of prisoners, was impressive in the extreme. The stability of the British race was impressed on me when one evening, after dinner, their Officer of the Day, called "Pickett Officer," asked me, "If I wished to take the keys." Presuming that it was some sort of drink I at once assented, but was soon disillusioned. We proceeded with due solemnity to the vicinity of the guardhouse, where we saw the guard lined up under an ancient colonnade with No.1 sentinel stalking up and down before them. Presently a lantern appeared approaching the guardhouse. No.1 challenged, "Halt! Who comes there?" to which the lantern replied, "The keys." No.1 answered, "Whose keys?" The lantern replied, "King George's keys." To which No.1 exclaimed, "God bless King George." The guard then presented, and the officer of the day called, "Amen." No.1 then called, "Advance keys, all's well." So the incident ended. On inquiry I discovered that this same ceremony of locking the Tower at ten o'clock and placing the keys in the guardhouse had been in effect since the time of Henry II, nearly one thousand years.

Arriving in France, General Pershing was so occupied that I was with him only at meals and occasionally when I accompanied him on visits of inspection, such as that to the British front in July, 1917.

There never was a man more worked upon by all the arts of flattery and persuasion than was he during those early months, yet it effected him not a bit. No adulation could persuade him to countenance the placing of American men in French and British units. It is to his iron resolution to form an American Army that we owe the great heritage of a victorious America, victorious in her own right, and by her own means. But for him, her manpower would have been bled white to fill the depleted ranks of Allied units, where their valor would have been unmarked and their achievements unheralded.

To those who have known General Pershing, only by his pictures or by an occasional distant view, he appears as a grave, austere man of fine presence, but cold and almost frigid in his loneliness. Just so it is with Mount Washington. Viewed from afar, it rises in cold and isolated majesty; in, but not of, our universe. It takes the more intimate personal knowledge of a ramble on its craggy sides to discover the warmth, beauty, and latent grandeur of its very self. All great men suffer from this fact. Of American generals, none has suffered more than General Pershing, because none have commanded such hosts or risen so high.

In his office or on his inspections, an unnatural severity, most unlike and distasteful to him, seemed of necessity to invest him. But, in his quarters he was no whit changed from the man of Mexico. Displacing worry by marvelous control of the will, he laughed and talked of casual, simple things interluding from time to time his conversation by some incisive question of momentous decision.

No matter how late he worked, and he usually did work well into the night, he always took a violent (no other word describes it) walk for half an hour before retiring. In the morning he took twenty minutes of setting up exercises before breakfast. In his mess, no wine was served save for the benefit of an occasional French visitor. His smoking was confined to one or two cigarettes after dinner.

The immense responsibilities of his position were impotent to remove his human interest. In October, 1917, two of his junior staff officers were in the hospital while he was at St. Nasairre inspecting, yet each day he had a telephone report of their condition sent to him.

Despite the mournful croaking of the Allies to the effect that war of movement and successful offensive was impossible, he never deviated from his belief that the Germans could be evicted from their trenches by a vigorous attack. During the winter of 1917 and 1918, all the world talked of bombs and trench war; the American Divisions in France practiced the open warfare offensive tactics, which were to receive their glorious vindication in the St. Mihiel and Argonne. His correct operation of tactics was equaled by his genius for organization and his just conception of the magnitude of our task. In the very teeth of combat he devised and built a great Supply System and Zone of the Interior organization unequalled by any in Europe, so that at the Armistice the American Army was the only Allied Force so situated as to be capable of a continued offensive.

The size of modern armies prevents the personal contact of the leaders and the led, which in our earlier wars caused the hero worship associated with the names of Grant, Scott, or Washington. Due to having entered the Tank Corps in November, 1917, I saw little of the General, yet I personally know of one occasion when the presence of the commander received a spontaneous tribute. Just at dark on September 25th, many of us were lying in the ditches bordering the Flury Varennes road, waiting for a German concentration to cease. Suddenly, General Pershing's big car with its four stars came up the road going to the front. Moved by a single impulse we all arose, and regardless of the shells, stood at salute until he had passed us.

I have saved for the last picture an incident of the Mexican Campaign, which, to my mind, gives the best index of General Pershing's ability as a commander.

On the night of the Battle of Guerrero in March, 1916, the General sent me from St. Heronimo to Dublan with a report of the battle to be forwarded from there by radio to General Funston. On



reaching Dublin, at dawn, I found the radio wrecked by a hurricane. Over impressed, perhaps, with the importance of a prompt report of our first fight, I asked the Air Officer there, a classmate of mine, to send a plane to Columbus, New Mexico with the message. Though a man of proven courage, he demurred on the ground that it was unduly hazardous on account of the wind. He stated, however, that if I would give him a written order he would risk it. I presumed on my position and wrote the order. When I reported this to the General, he said, "You have made a mistake. I would not have ordered such a dangerous flight, but I know you did what you thought was right and I assume the full responsibility." The ability to support one's juniors, no matter how humble, is the rarest and greatest of military virtues.

I have tried this evening to give you a picture of the man, John J. Pershing; strong, virile, kindly and human; alive to his responsibilities; and unswerving in his adherence to duty. To me the motto of West Point, "Duty, Honor, Country," finds in him a perfect exemplification.

## THE PRESENT SABER; IT'S FORM AND THE USE FOR WHICH IT WAS DESIGNED

By First Lieutenant George S. Patton, Jr.  
Tenth Cavalry

The Cavalry Journal  
April 1917

Each point, lunge, and the charge saber taught in the Saber Manual, 1914, is also a complete parry for any cut or thrust delivered from the direction of attack. This being the case, it is clearly better to use the lunges now taught, which are also parries, than it would be to use simple negative parries, since this latter, as it does not threaten the enemy in any way, only raises his morale.

The fact that all the attacks taught are also parries, is a fact that is not understood by the vast majority of officers whose only knowledge of fence comes from reading the manual, not from practicing it. Since they see no complicated passive parries described, they think that the trooper is not defended. As just stated, this is not the case. The trooper has but to lunge at his opponent in the manner taught to not only threaten his adversary, but at the same time to perfectly protect himself from either a cut or a thrust.

A study of the use of the sword from the beginning, shows that when the art of fence (de fence) first developed, that is, when the sword first began to replace armor and shield as a defensive weapon, the parries mentioned above were the only ones taught. They were then called, "thrusts of opposition."

The complicated passive parries were invented by the various teachers for the use of duelists, where the contestants fought uninterrupted. In the melee such will not be the case, meetings between combatants will be brief and to gain success they must be bloody for the enemy. A soldier who goes about defending himself is doing no good to the tactical issue and will soon be killed, as since he injures no one, he will be set upon by several at once and dispatched.

Moreover, since our men carry a pistol, they will never use a saber as a weapon for single combat while out scouting or patrolling. In the charge, in ninety-nine cases out of a hundred, the initial impact will decide the day. Offensive, mordant troopers, imbued with the fierce desire to destroy the enemy by always attacking him, will break troops who, having been overeducated in self defense enter the fight more desirous of escaping alive by the use of parries than of remaining victorious surrounded by slain opponents.

It is for the purpose of developing this idea of attack, that in the present manual so much time is devoted to running at dummies and so little to combats between men, and in these combats the time has been so reduced that only one attack is possible in each contest.

**CUTS:** In the charge, the point will always beat the edge. It gets there first. It is at least five times more deadly. The point utilizes to the full the momentum of the horse; it gives incisive emphasis to his impact. The cut is perpendicular to the motion of the horse and so only loses in efficiency by reason of it.

When Cyrus the Great first invented “shock tactics” (500 B.C.), he gave his men short pikes, pointing weapons, though for hundreds of years they had used cutting swords dismounted. From his day on, the point has been the weapon of the charge mounted. The charge of the Turk, so often mentioned by advocates of the edge, was in no sense a charge as we know it. They rode up close to their foe and by showers of arrows and darts, later by firing, induced him to break his formation and pursue; then they turned, and being better mounted, surrounded and killed individuals. But, from the day of Charles Martel on, there is no record of their charging with the sword as we know it.

In the melee of armored men, the edge could be used because (protected by their armor) they could halt and circle about each other, hacking away, immune to the danger of some passing attack delivered from behind by a third party. Unarmored men cannot so halt, as, if they do, they will be disabled by some passing adversary.

Hence, the reason cuts are not taught in the manual is because to properly use them, the trooper must become immobile and be mounted on a horse trained to rear and turn on the haunches. No cavalry of today have such horses, nor, being unarmored, should they, for the reasons just stated, which prevent unarmored men from halting in the melee. In cuts delivered while at the gallop, an uneducated one is nearly as effective as an educated one and neither is so deadly as the point.

Hence, by not teaching cuts, we put off as long as may be that state of frenzy where the trooper will begin to cut. When he does start to cut, his untutored blows will be fully as effective under his then state of mind as his educated cuts would be under that condition. And, by teaching only the point, we have made him use that most deadly form of action as long as possible.

I know personally only two men who have ever cut an enemy in war. One case occurred in the Civil War, the other in China. In each case, the skull turned the edge and only a flesh wound was inflicted. Had the men in question used the point they would have killed their opponents, as in each case they were moving at a gallop and if a point touches a man while at that gait, it will run him through.

But even if the cuts were as good as the point in a melee, it still would not justify its use, as melees are very rare. It is the initial charge with the point which almost invariably decides the fight, often before the lines have met, and the trooper has too much to learn to attempt to teach him the cut as well as the point when his defenseless state, so far as armor is concerned, precludes his pulling up to cut properly, when he is seldom if ever in a melee, and when, if he is so fortunate, the point is so much more deadly.

Criticism that the Manual of 1914 is designed only for the present saber is correct, in that the saber and manual were both created at the same time, but whatever the form of saber, unless it assumed the shape of a scimitar, the present manual is far better than the old one, because it treats the saber as a tactical weapon, not as an arm for single combat.

If I were to claim any originality in the manual, this statement would be presumptuous. I do not; it is an almost verbatim copy of the new French Manual and I spent six months practicing it and even instructing it in France. At that time, 1913, the French had three types of saber in their cavalry. One was very similar to our present saber, the other two were like the old issue saber. They used the same manual with all three and got good results. Hence my statement that the virtue of the manual is not dependent on the form of weapon absolutely. Of course, a straight saber is

better for thrusting than a curved one used to thrust will bring far better results than if it is used for cuts. Another fact not fully realized, is that a straight saber is just as good a cutting weapon as a curved one. I have ample historical proof of this statement, but to reduce space will simply mention the straight cutting sword of the Crusader and the deadly claymore of the Highlander. This latter had no point at all and was the most feared cutting weapon of its time.

France is the foremost nation of the world with the saber, and all Europe with the exception of Russia follows her lead in the use of the point. England even went so far that after years of devotion to the edge, she changed so completely to the French School that the present English saber has no edge at all.

In view of the foregoing, I am of the opinion that the present manual should be continued in force until after the close of the war in Europe, when it, in company with most other manuals, may have to undergo changes to conform to the lessons there to be learned. It seems to me an error to attempt changes now in the manual which was up to date when the war started, and it is my firm belief that when some of the officers and noncommissioned officers who have had instruction at the Mounted Service School have a chance to fully illustrate the use of the saber in the new manual, many who through ignorance do not now approve, will then be most favorably impressed.

*\* In addition to criticisms as to the balance of the present saber, many officers have favored a slight curve in the blade. More recently, certain troop commanders have contended that the **Saber Manual (1914)** should contain provision for "cuts" and "parries" and to that extent is defective. In explanation of the omission of these features from the Manual, Lieutenant Patton, who wrote the Manual and who is well known as one of the foremost authorities on fencing in the army, has prepared this memorandum for the Commandant, Mounted Service School, which has been forwarded to the War Department as representing the views of the School. — Editor.*

## REPORT OF OPERATIONS OF THE ARMY POLO TEAM OF 1922

By Major George S. Patton, Jr.

The Cavalry Journal  
April 1923

Trusting in the truth of the old saying as to brevity and wit, and impelled further from long duty with troops to avoid lengthy reports, which are never read, I am tempted to make my report as follows:

Final Game of Junior Polo Championship, 1922

Score: Army, 8; Meadowbrook, 7.

Truly, that is enough; but to comply with tradition and to cater to the few who may be curious, I shall the following:

**The Three Campaigns:** In 1920, a United States Military Academy team entered the contest for the Junior Championship. Using only horses from West Point, they made a very excellent but unsuccessful attempt to lift the cup.

In 1921, the Army Central Committee took the matter in charge. Horses and players were assembled from Fort Riley, West Point, and Washington. These contingents gathered at Camp Alfred Vail, New Jersey. After a series of tryouts, two teams were selected and entered in the Junior. Both teams were eliminated in the first round, although the team which put the Army out finally won the event.

There were several reasons for this second failure.

**Horses:** More than half the horses assembled were not of the caliber for such a contest. At the normal speed of army polo they were fast and tractable, but at the speed of such a contest they were useless. Their methods of training and caring for them were not scientific and were more or less haphazard, resulting in loss of condition and speed.

Further, the players, through a mistaken idea, used too many horses. Any horse worthy of the name and in proper condition should do two periods in a match, the first four horses in a string of eight necessarily being better than the second four. This was not realized, and the second four horses were frequently used.

**Want of Fast Practice:** Camp Vail was selected because there were too good fields on the post and two more at a nearby club; hence, the horses and men could be cheaply cared for. The fields were good, but the competition was not. The army teams could easily beat anything in the vicinity; hence, most of their practice came in playing each other. Having no standard of comparison, they did not practice at sufficient speed. It was faster than garrison polo, but it was not fast enough; also, they had no means of learning new methods; hence, they practiced according to ancient ideas at moderate speed.

With the notable exception of Brown and Wilson, all the army players were poor mallet men. Here again, due to lack of higher standards, they did not realize and so correct their defects.

The Central Polo Committee digested these facts in sorrow and decided to correct them in the offensive of 1922.

By the kind offices of Messrs. Stoddard, Millbourn, Von Stade, and many others, permission was secured to send an army team to Meadowbrook for practice. This at once insured practice of the highest type of polo.

In order to centralize the effort, it was at once decided to enter but one team. Seven players and forty-seven horses were assembled from the same sources as in 1921. Through the courtesy of the Air Service and with the warm cooperation of Major Walter Weaver, commanding officer at Mitchel Field, the players were lodged at that post, next door to Meadowbrook. Stables for the horses were rented at the Mineola Driving Club track, three miles distant. The men camped here and were messed at Mitchel Field.

These arrangements were most excellent, as, besides the four fields at Meadowbrook, there are six other private fields within a radius of five miles, and the sporting owners of these latter generously placed them at the disposal of the army.

The several contingents began to assemble at Mitchel Field on June 18th, and by June 22nd all were present. As soon as this happened, Lieutenant T.H. McCreery, assistant manager, was placed in absolute charge of the horses, both public and private. His authority was complete and no one could play or exercise a horse except as he directed. The good effect of this plan became manifest almost at once. The horses improved in condition and appearance from day to day, until, on the great day, General Pershing himself was good enough to say that he had never seen a finer looking or better conditioned lot of horses in our out of the army.

While at Meadowbrook the army entered two tournaments; the Hempstead Cups, a handicap event for teams up to twelve goals and players up to five; this event was won by the army. The Meadowbrook Cups, a handicap for teams up to twenty goals with no limit on the handicap of players; in this event the army was eliminated in the semifinals.

Besides the regular tournament events, there was constant opportunity for practice in "cut in games" and games on private fields.

Due to bad weather, the tournament events lasted two weeks beyond schedule, but at the close of this period the final team, with one substitute, had practices against the best players in America.

The result of all this was that when the team left for Narragansett it had selected the best men under tournament conditions, had eliminated the poorest horses, and had experienced the fastest kind of polo as demonstrated by the greatest masters of the game.

Such an experience naturally gave to Colonel Brown and his team confidence that there was nothing in store for them which they had not experienced, and a knowledge that, though victory was not certain, it would take a good team to beat them. The event proved that no such team existed.

At Narragansett the horses and men were accommodated at Lake View farm, two miles from the fields; here there were excellent stables and good camp grounds for the men. Some of the officers also camped, while others lived in town.

Before passing to purely personal remarks and conclusions of perhaps dubious value, pause must be made to remark on the wonderful treatment accorded the army team by all of the civilians with whom they came in contact. In every match the army was the favorite of the crowd, every assistance and courtesy was accorded them, and the officers were showered with invitations to dinners and dances. While many of these invitations were accepted, it is pertinent to remark that the members of the team never let pleasure in liquid or other form blind them to the object of their presence. They trained hard at all times, both in the things they did, such as constant riding and mallet work, and also, this was the more difficult, in the things they did not do.

**Conclusions:** Since the best school for war is war, so it is with polo. The best school for polo is fast tournament polo. Polo as played at local clubs, civilian or military, will never make a winning team for a big event. The speed cannot be simulated; it must be experienced. This applies equally to men and horses. Hitting at a fast gallop is utterly different from hitting at a run. Horses which go well on the local field become crazy pullers in a wide open game. They are like the five-foot jumpers of the back yard who knock down at three-six in Madison Square.

If the army wants to continue high class polo, it must repeat this year's performance as to preparation.

Aside from the speed and the hitting, the whole character of high class polo is different.

There are three classes of polo, at least as I have observed it, and I have had great chances to observe, greater than to perform.

First, there is a type of polo which may be called "Hit and be Damned," dependent on a complete lack of trust in either the intelligence or stickwork of one's team mates or on the actions of one's mount and requiring profound trust in God. Perhaps I have been unfortunate, but this is the only kind I ever saw in the army up to 1916. It still flourishes in many places and among all beginners.

Second, up-and-down polo, dependent on 50 percent confidence in the hitting and intelligence of one's team mates and on the actions of one's mount. In good examples of this sort of game, most players are paired; team mates follow each other looking for misses; no one ever turns on a stroke until the stroke is made; there is much pulling up; a game is sticky, and 75 percent of goals made are straight up and down the field. A good sort of this type game will win in a twelve goal tournament.

Third, the open or crossfield game, dependent on 90 percent hitting and confidence in the intelligence of one's team mates and actions of one's horse. It is hard to describe, for, as Mr. Stoddard says, it is so simple: "All that is necessary to remember is that there are only two places to hit a ball, first to a team mate, second between the posts."

In this style of game no player ever follows another, waiting for a miss. He goes to the end of the shot the other man is about to make. If a player has 55 percent chance for a ball, the other players turn for his shot. There are many shots under the neck. This is particularly true in defense.

Seventy-five percent of goals are made from angles; there is much less pulling up, and hence more speed.

But it is hard to describe, far beyond my ability. It must be seen to be appreciated and can only be played on perfect ponies and perfect fields. But it is THE game. The army team which won the Junior used it to a degree.

**Stickwork:** It was the general criticism of the army players that they hit too late on forward shots and too soon on back shots. Speaking generally, we usually hit the ball in forward strokes just forward of the stirrup. It should be hit about opposite the bit. There are two reasons for this; First, when so hit, the ball has a greater tendency to "loft"; second, the angle at which the ball may be directed is increased many degrees, thus giving the player more choice of direction and command of the ball.

In the actual making of the stroke we were said to move the hand too much. In the forward strokes the hand should not rise above the elbow. The stroke should be made with increasing momentum, that is, starting slow and gaining speed just before it hits the ball. We usually start just as fast and as hard as possible. As a rule, our back strokes were less faulty. Going fast, we had to hit late the correct way, because we misjudged the speed.

**Beginners:** It seems to me that in the army we are too helpful to beginners. By letting them play when they are utterly useless, we get many bad players and slow games. In giving them public horses to play, we ruin the horses to no purpose. It would be better if they were forced to make or buy a pony and be not allowed to play at all until they could at least hit the ball once in a while. By this system some would be discouraged and quit, but such are so lazy that they would never be any good, anyway; we would get fewer and better players.

**Private Horses:** The virtue of polo as a military accomplishment rests on the following; It makes a man think fast while he is excited; it reduces his natural respect for his own safety, that is, makes him bold; it should teach restraint under exciting circumstances. For the cavalryman, it is the nearest approach to mounted combat; it makes riding worthwhile; it keeps a man hard. Finally, it should teach better horse management.

It is a sad but true fact that a man will work just a little harder on his own horse than on a public one. A private horse stands a better chance of becoming a good polo horse than does a public one, as he is ridden by fewer people. A polo horse is the best type of charger for service and combat.

For these reasons it seems that all officers who want to play polo should own at least one private horse. They will learn more, help polo more, and be better mounted for war. Horses capable of making fine animals can be bought green from the remount or privately at remount prices. We will never amount to a great deal in polo until we get more good private mounts.

I shall close by quoting a famous dealer. When I asked him why he trained and sold western mongrels, he replied, "If I sell thoroughbreds, I not only have to make the horse, but the rider." Fort Riley has made us riders, buy thoroughbreds.



## THE SECRET OF VICTORY

Major George S. Patton, Jr., Cavalry

1926

Despite the years of thought and oceans of ink which have been devoted to the elucidation of war, its secrets still remain shrouded in mystery.

Indeed, it is due largely to the very volume of available information that the veil is so thick.

War is an art and as such is not susceptible of explanation by fixed formulae. Yet, from the earliest time there has been an unending effort to subject its complex and emotional structure to dissection, to enunciate rules for its waging, to make tangible its intangibility. One might as well strive to isolate the soul by the dissection of the cadaver as to seek the essence of war by the analysis of its records.

Yet, despite the impossibility of physically detecting the soul, its existence is proven by its tangible reflection in acts and thoughts.

So with war, beyond its physical aspect of armed hosts there hovers an impalpable something which on occasion so dominates the material as to induce victory under circumstances quite inexplicable.

To understand this "something" we should seek it in a manner analogous to our search for the soul; and so seeking we shall perchance find it in the reflexes produced by the acts of the "Great Captains."

But whither shall we turn for knowledge of their very selves? Not in the musty tomes of voluminous reports or censored recollections wherein they strove to immortalize and conceal their achievements. Nor yet in the countless histories where lesser wormish men have sought to snare their parted ghosts.

The great warriors were too busy and often too inapt to write contemporaneously of their exploits (save in the form of propaganda reports). While what they later put on paper as biographies were retrospects colored by their vain strivings for enhanced fame, or by political conditions then confronting them.

War was an ebullition of their perished past. The violent simplicity in execution which procured success for them and which enthralled the world looked pale and uninspired on paper; so they "seasoned" it.

The race yearns to adore. Can it adore the simple or venerate the obvious? All mythology and folk lore rise in indignant protest at the thought. The sun gave light, therefore he was not hot gas nor a flame, but a god or a chariot. The ignis fatuus deluded men of nights. It was a spirit; nothing so simple as decomposition could serve the need.

So with the soldier. To pander to self love and racial urge he attributes to his acts profound thoughts which never existed.

The white-hot energy of youth, which saw in obstacles but inspirations, and in the enemy but the gage to battle, becomes too complacent and retrospective with age. The result of mathematical calculation and metaphysical erudition; of knowledge he never had and plans he never made.

With the efforts of the historians, the case is even worse. Those who write at the time are guilty of partisanship and the urge of hero worship. Those who write later are forced to accept contemporaneous myths and to view their subject through the roseate light which distance, be it of time or space, sheds ever to deprive us of harsh truth.

Further, the historian, no matter when he writes is by nature a man of thoughtful and studious habits utterly incapable of appreciating the roaring energy of a soldier. The motive of his life is admiration for reflection and ordered calculation. Can he attribute to his subject virtues other than those which in himself he esteems most highly? So all unwittingly he is bound to limn for us soldiers as utterly unlike themselves as those prissy and high-minded youths who stalk the pages of juvenile romances in the garb of the fourteenth century and with the manners of the twentieth.

Colored by self deception, shaded by scholarly book worms, our soldiers stand before us as devoid of life as the toothless portraits of Washington which adorn the walls of half our school rooms.

In peace, the scholar flourishes, in war the soldier dies; so it comes about that we view our soldiers through the eyes of scholars and attribute to them scholarly virtues.

Seeking obvious reasons for the obscure, we analyze their conduct as told by historians and assign as reasons for their success, apparent, trivial things.

Disregarding wholly the personality of Frederick, we attribute his victories to a tactical expedient, the oblique order of battle.

Impotent to comprehend the character of Rome's generals a great historian coins the striking phrase; "At this time the Roman Legionary shortened his sword and gained an empire" and we swallow it, thereby avoiding thought.

Our research is further muddled by the fabled heroism of all former fighters. Like wine, accounts of valor mellow with age, until Achilles dead for three thousand years stands peerless.

Yet, through the murk of fact and fable rises ever to our view this truth; "The history of war is the history of warriors; few in number, mighty in influence."

Alexander, not Macedonia, conquered the world. Scipio, not Rome, destroyed Carthage. Marlborough, not the Allies, defeated France. Cromwell, not the Roundheads, dethroned Charles.

Were this true only of warriors we might well exclaim, "Behold the work of the historian," but it is equally the case in every phase of human endeavor. Music has it's myriad of musicians, but only it's dozen masters. So with painting, sculpture, literature, medicine, or trade. "Many are called, but few are chosen."

Nor can we concur wholly with the alluring stories in the advertising sections of our magazines which point the golden path of success to all and sundry who will follow that particular phase of "home education" that they happen to advocate. "Knowledge is power," but to a degree only. Its possession per se will raise a man to mediocrity, but not to distinction. In our opinion, indeed, the instruction obtained from such courses is of less moment to future success than is the ambition which prompted the study.

In considering these matters, sight should not be lost of the fact that while there is much similarity, there is also a vast difference, between the successful soldier and the successful man in other professions. Success due to knowledge and personality is the measure of ability in each case; but to all, except the soldier, it has vital significance only to the individual and to a limited number of his family and associates, while with the soldier success or failure means infinitely more as it must of necessity be measured not in terms of personal honor or affluence, but in the life, happiness, and honor of his men, his country.

Hence, the search for that elusive secret of military success; soul, genius, personality; call it what you will; is of vital interest to us all.

As has been shown, history and biography are of but limited assistance and the situation is still further complicated by other circumstances which we shall now discuss.

First, we must get an harmonical arrangement between two diametrically opposed views; namely that there is "Nothing new under the sun" and to coin a phrase that there is "Nothing old."

Referring to the first assumption, that of immutability, we refer to the tendency, well attested in the records of the historians, to consider the most recent past war as the last word, the sealed pattern of all future contests to insure peace.

For this theory we of the military profession are largely to blame. First we realize, none better, that in the last war it was necessary to make many improvisations and to ply our trade with ill assorted tools. We then read our books and note with a thrill of regret that in the war next preceding our own experience, "Things ran with the precision of a well oiled machine," for so the mellowing influences of time have made it appear to our authors.

In our efforts to provide for the avoidance, in future, of the mistakes which we personally have encountered and to insure to ourselves, or to our successors, the same mathematical ease of operation of which we have read we proceed to enunciate rules.

In order to enunciate anything we must first have a premise. The most obvious is the last war. Further, the impressions we gained there were the most vivid we have ever experienced; burned on the tablets of our memories by the blistering flash of exploding shell; etched on our souls by the incisive patter of machine gun bullets, our own experiences become the foundation of our thoughts and, all unconscious of personal bias, we of necessity base our conceptions of the future on our experience of the past.

Beyond question, personal knowledge is a fine thing, but unfortunately it is too intimate. When, for example, we recall a railroad accident, the picture that most vividly presents itself to us is the

severed blue-gray hand of some child victim; not the misread signals which precipitated the tragedy.

So with war experiences. The choking gas that strangled us sticks in our memory to the more or less complete exclusion of the important fact that it was the roads and consequent abundant mechanical transportation peculiar to western Europe which permitted the accumulation of enough gas shells to do the strangling.

Even when no personal experience exists we are certain to be influenced by the most recent experience of others. Because in the Boer War the bayonet found no employment, we all but abandoned it, only to seize it again when the Russo-Japanese conflict re-demonstrated its value.

Going back further we might point to countless other instances of similar nature. Witness the recurrent use and disuse of infantry and cavalry as the dominant arm according to the most recent "lesson" derived from the last war based invariably on SPECIAL CONDITIONS, in no way bound to recur, yet always presumed as immutable.

So much for the conservatives; now for the optimists; the "Nothing Old" gentry.

These are of several species but first in order of importance come the specialists.

Due either to superabundant egotism and uncontrolled enthusiasm or else to limited powers of observation of the activities of other arms, these people advocate in the most fluent and uncompromising manner the vast FUTURE potentialities of their own weapon. In the next war, so they say, all of the enemy will be crushed, gassed, bombed, or otherwise speedily exterminated, depending for the method of his death upon whether the person declaiming belongs to the tank, gas, air, or other special service.

Due to the (unfortunate) fact that many of them possess considerable histrionic ability and much verbosity, they attract public attention. The appeal of their statements is further strengthened because, in the first place, they deal invariably in mechanical devices which intrigue the simple imagination. In the next place the novelty of their schemes and assertions has a strong news interest which insures their notice by the press. This last fact is of peculiar advantage to the present crop of specialists because in the last war the maximum press activity was on the western front.

Here the preliminary cavalry activities had ended before the shock of the world cataclysm had been sufficiently dissipated to permit detailed accounts, while due to necessary restrictions, correspondents could not witness infantry fights in detail and therefore filled their articles with accounts of the noisy or noisome activities of the special arms whose preliminary activities they could see and whose novelty assured public interest.

Earlier examples of this newspaper tendency to exploit the bizarre is instanced in the opening accounts of the Civil War where "Masked Batteries" and "Black Horse Cavalry" seemed to infest the whole face of nature. Or again, the undue importance attached to the "Dynamite Ship," the Vesuvius at Santiago or the storied prowess of the submarine just after its invention.

Mention of the optimists would be incomplete without some reference to those super visionaries, the Pacifists.

Like the Specialists, the stupendous nature of their claims gains a hearing and effects a due consideration of war by the fact that it influences the minds of potential soldiers and hampers the activities of the armed forces by way of reduced financial support. To these people the history of the race, from the fierce struggles in primordial slime to the present day, is a blank. At their bidding all is changed. In a moment, the twinkling of an eye, the lion loses his appetite and the lamb his fear. Avarice and ambition, honor and patriotism are no more, all merge in a supine state of impossible toleration. To them the millions who have nobly perished for an ideal are fools, and a sexless creature too debased to care and too indolent to strive is held up for emulation.

Nor are they deterred in their schemes for complete disarmament by the fear of cost to themselves or their country because, for themselves, they know that by benefit of sex, weak eyes, flat feet, or a limber conscience they will avoid the conflicts that their unarmed policy will produce. For their country they care not at all let it perish; so long as they may survive.

Both the standpatters and the progressives have reason of sorts and as we have pointed out we must seek to harmonize the divergent tendencies.

A British writer has said, "The characteristic of war is its constant change of characteristic," but as is ever the case with aphorisms his remark needs explanation.

There is an incessant and constant change of "means" to attain the inevitable "end" but we must take care not to let these inevitable sundry means, past or predicted, attain undue eminence in the perspective of our minds. Since the beginning, there has been an unending cycle of them, and for each, its advocates have claimed adoption as the sole means of successful war. Yet, the records of all time show that the unchanging ends have been, are, and probably ever shall be, the securing of predominating force, of the right sort, at the right place, at the right time.

In seeking a premise for the enunciation of rules for the employment of this predominating force, we must cull from past experience or study, the more permanent characteristics, select our weapons, and assign to them that importance which reason and the analogy of experience indicate that they will attain.

Bearing these considerations, and the definition of predominant force in mind, we shall resume our search for the secret of victory.

No matter what the situation as to clarity of his mental perspective, the conscientious soldier approaches the solution of his problem more or less befuddled by phantoms of the past and deluded by unfounded or unproved hopes for the future. So handicapped, he assumes the unwonted and labored posture of a student, and plans for perfection so that when the next war comes that part of the machine, for which he may be responsible, shall instantly begin to function with a purr of perfect preparation.

In this scholarly avocation soldiers of all important nations use at the present time what purports to be the best mode of instruction, the applicatory method. The characteristics of some concrete problem are first studied in the abstract and then tested by applying them with assumed forces and situations in solving analogous problems either on the terrain or on a map representation of it.

This method not only familiarizes the student with all of the tools and technicalities of his trade, but also develops the aptitude for reaching decisions and the self assurance derived from demonstrated achievement.

But as always, there is a fly in the ointment. High academic performance demands infinite intimate knowledge of details and the qualities requisite to such attainments often inhabit bodies lacking in personality. Also the striving for such knowledge often engenders the fallacious notion that capacity depends on the power to acquire such details, not the ability to apply them.

Obsessed with this thought, students plunge in deeper and ever deeper, their exertions but enmeshing them the more until like mired mastodons they perish in a morass of knowledge where they first browsed for sustenance.

When the prying spade of the unbiased investigator has removed the muck of official reports and the mire of self-laudatory biographies from the swamp of the World War, then the skeletons of many such military mammoths will be discovered. Amidst their mighty remains will lurk elusive the secret of German failure.

Beyond question, no soldiers ever sought more diligently for prewar perfection. They built and tested and adjusted their mighty machine and became so engrossed in it's visible perfection, in the accuracy of it's bearings, and the compression of it's cylinders, that they neglected the battery. When the moment came, their masterpiece proved inefficient through lack of the divine afflatus, the soul of a leader.

Truly in war; "Men are nothing, a man is everything."

Here we must most vigorously deny that anything in our remarks is intended to imply belief in the existence of spontaneous untutored inspiration. With the single exception of the divinely inspired Joan of Arc, no such phenomenon has ever existed and as we shall show, she was less of an exception than a coincidence.

We require and must demand all possible thoughtful preparation, and studious effort possible, so that in war our officers may be equal to their mighty trust, the safety of our country.

Our purpose is not to discourage such preparation, but simply to call attention to certain defects in it's pursuit. To direct it not towards the glorification of the means, study; but the end victory.

In acquiring erudition, we must live on, not in, our studies. We must guard against becoming so engrossed in the specific nature of the roots and bark of the trees of knowledge as to miss the meaning and grandeur of the forests that they compose.

Our means of studying war have increased as much as have our tools for waging it, but it is an open question as to whether this increase in means has not perhaps obscured or obliterated one essential detail, namely the necessity for personal leadership.

Because Alexander as a boy learned the art from the stories told by Philip's veterans or the rhymed chronicles of mythological contests is no reason for assuming that, considering the time, he was less versed in the warfare of his day than was at our period that great military scholar and

practitioner Ferdinand Foch. Simple as was the schooling of Alexander, his requirements were simpler.

All down the immortal line of mighty warriors the same is true. Hannibal, Caesar, Heraclius, Charlemagne, Richard, Gustavus, Tourraine, Frederick, Napoleon, Grant, Lee, Hindenburg, Allenby, Foch, and Pershing; were all deeply imbued with the whole knowledge of war as practiced at their several epochs.

But also, and mark this, so were many of their defeated opponents. As has been pointed out, the secret of victory lies not wholly in knowledge. It lurks invisible in that vitalizing spark, intangible, yet as evident as the lightning, the warrior soul.

There is no better illustration of the potency of this vitalizing element than is portrayed in the story of the "Maid of Orleans." For more than 90 years prior to her advent, the armies of France had suffered almost continuous defeat at the hands of their British opponents. The reason for this state of things lay not in the inferiority of French valor, but in the reappearance of the foot soldier armed with the missile weapon, the long bow, as the temporary dominating influence on the battlefield. As a result of the recurrence of this tactical condition, France suffered almost continuous defeats with the result that her people lost confidence. They developed an inferiority complex.

Then came Joan, whose flaming faith in her heaven sent mission rekindled the national spirit. Yet, as great as were her powers, it is idle to suppose that, all unschooled in war as she was, she could have directed, unaided, the energy that she produced.

Like the fire beneath the boiler, she produced the steam. Ready to her hand she found competent machinery for it's utilization in the shape of those veteran soldiers, Dunois, La Hire, and Saint Railles.

The happy coincidence of her ignorant enthusiasm and their uninspired intelligence produced the phenomenal series of victories which freed France.

It seems a far cry from the Virgin Maiden to the professional pugilist, yet there is much in the way of similarity in their dominant characteristics. In all closely contested ring battles between opponents of equal weight (force) the decision almost invariably goes to the fighter who is better endowed with faith, self-confidence, and a courageous spirit. But, we must again point out that no pugilist, no matter how so confident or courageous, has ever succeeded over an equal enemy unless to his spiritual attributes he has added the combined knowledge of, and skill at, his profession.

We shall now seek to evaluate and place in their just ratio the three essentials to victory; Inspiration, Knowledge, and Force (Mass).

Considering Napoleon as the apogee of military ability, we note that whereas he won many battles with numbers inferior to the enemy, he never lost a battle when he was numerically superior. In other words, even his transcendent ability was not equal, on every occasion, to the task of counterbalancing numerical inferiority.

Again, when he was confronted with the admittedly incapable Austrian generals of 1796, he destroyed armies; while later, particularly after 1805, his victories were far less overwhelming.

So it was with Caesar. Against the Nervae he was a consuming flame, yet against Romans a successful contender. Grant in the Wilderness was as nothing when compared to Grant at Donaldson or before Vicksburg.

The three preceding cases represent soldiers of the highest type both mentally and spiritually, but with perhaps a shade more emphasis on their spiritual side.

By way of contrast we may note how the learned, but uninspired, Prussians of 1870 triumphed over the poorly led French while, in 1914, their equally learned and uninspired descendants were far less successful in the face of better opposition.

We may therefore postulate that no one element, be it Soul, Knowledge, or Mass is dominant; that a combination of any two of these factors gives a strong presumption of success over an adversary relying on one alone, and that the three combined are practically invincible against a combination of any other two.

Comparing our own resources as to mass with those of any possible opponent or group of opponents, we strike at least a balance.

The demonstrated ability of our trained leaders in past wars shows that, so far as education in concerned, our officers have no superiors and few equals. This being so, victory will fly to or desert our standards in exact proportion to the presence, or absence, in our leaders of the third attribute. Of what does it consist?

As has been noted, the records of all trades and professions show that it is the rare individual, rising like a mountain peak through the clouds of billowy mediocrity, who attains success.

He starts from the same upper reaches, be it hill or hero; yet the cataclysm which causes the former is as imponderable as the conditions which produce the latter. So it seems, yet as surely as the earthquake was the result of preordained and computable contractions, so surely is the leader the product of obscure, yet ascertainable, circumstances.

The future happiness and existence of races cannot be relegated to the realm of uncertainty contained in that plausible but indefinite assurance that, "Genius is born, not made." If this were so, the World War, among other crimes, might well have been charged against it the sin of practicing an undue use of birth control. Certainly, despite a superabundance of educated aspirants, none of the participants produced an inspired leader.

It would be impious to attribute this dearth to God alone. The system of military education, and be it noted, the universal system (of draft) must be at fault.

That "Man cannot live by bread alone," and that "As a man thinketh so is he," have been for generations droned from countless pulpits as the texts for prolix and unconvincing sermons until the cogency of the phrases has been somewhat dulled, yet, they contain an infinity of truth.

Dry knowledge, like dry rot, destroys the soundest fiber. A constant search for soulless fundamentals, the effort to de-regularize the irregular, to make complex the simple, to assume perfect men, perfect material, and perfect terrain as the prerequisites to war has the same effect on



the soldier student. Indeed, the statement that, "Education is a device by which men fool themselves into a sense of efficiency" is too often apposite.

War is conflict. Fighting is an elemental exposition of the age-old effort to survive. It is the cold glitter of the attacker's eye, not the point of the questing bayonet, that breaks the line. It is the fierce determination of the driver to close with the enemy, not the mechanical perfection of tank, that conquers the trench. It is the cataclysmic ecstasy of conflict in the flier, not the perfection of his machine gun, which drops the enemy in flaming ruin. Yet, volumes are devoted to armaments; and only pages to inspiration.

Since, by necessity, limitations of map problems inhibit the student from considering the effects of hunger, emotion, personality, fatigue, leadership, and many other imponderable, yet vital, factors, he first neglects and then forgets them.

Obsessed with admiration for the intelligence which history has ascribed to past leaders, he forgets the inseparable connection between plans, the flower of the intellect, and execution, the fruit of the soul. Hooker's plan at Chancellorsville was masterly, its execution cost him the battle. The converse was true at Marengo. Yet, since the historian, through lack of experience and consequent appreciation of the inspirational qualities of generals, fails to stress them, he does emphasize their mental gifts which, since he shares, he values. The student blindly follows. Hugging the notion of "intelligence," he pictures armies of insensate pawns moving with the precision of machines and the rapidity of light, guided in their intricate and resistless evolutions over the battlefield by the cold effulgence of his emotionless cerebrations as transmitted to them by wire and radio through the inspiring medium of coded messages.

Doubtlessly, he further assumes the same superhuman intelligence will translate those somber sentences into words of fire, which shall electrify his chessmen into frenzied heroes who, heedless of danger, shall dauntlessly translate the still born infants of his brain into heroic deeds.

Was it so with Caesar as he rallied the 12th Legion? Could the trackless ether have conveyed to his soldiers via the medium of radio waves the inspiration that Napoleon imparted by his ubiquitous presence when before Rivoli he rode five horses to death, "To see everything for himself"?

Staff systems and mechanical communications are valuable, but above and beyond them must be the commander. Not as a disembodied brain linked to his men by lines of wire and radio waves, but as a living presence, an all pervading visible personality.

The unleavened bread of knowledge will sustain life, but it is dull fare unless leavened by the yeast of personality.

Could seamanship and shooting have made the Bon Homme Richard prevail over the Serapis or have destroyed the French fleet in Abukar Bay if John Paul Jones and Horatio Nelson had been other than they were? What intellectual ghost replete with stratagem could have inspired men as did these two who, in themselves, have epitomized not only knowledge of war, but the spirit of battle.

In defining the changeless characteristics of war we mentioned force, place, and time. In our calendar of warriors Napoleon Bonaparte and Stonewall Jackson stand preeminent in their use of

the last of these, time. Of the first his soldiers boasted, "He wins battles more with our legs than with our bayonets." Jackson's men proudly called themselves "Old Jack's Foot Cavalry."

Libraries have been written on the deeds of both men. Shrewd critics have assigned success to all manner of things; as tactics, shape of frontiers, happily placed rivers, mountains or woods, intellectual ability, or to the use of artillery. All in a measure true, but none vital. Nor is it even in the speed of the operations that the secret lays, but in the inspiring spirit with which they so inoculated their soldiers as to lift weary footsore men out of themselves and to make them march, forgetful of agony, as did Messna's division after Rivoli or Jackson's at Winchester.

No words ever imagined could have produced such prodigies of endurance as did the sight of the boy general ill perched on his sweating horse or of the stern puritan plodding ever before them on Little Sorrel. The ability to produce endurance is but an instance of that same martial soul which arouses in it's followers that resistless emotion defined as "élan," the "will to victory," or "viscousness," depending upon whether the vocabulary used is French, German, or Pacifist, respectively. However defined, it is akin to that almost cataleptic burst of physical and mental exuberance shown by the athlete when he breaks a record or plunges through the tacklers, and by the author or artist in the creation of a masterpiece. The difference is that in the athlete or artist, the ebullition is auto-stimulated. With an army it is the result of external impetus — leadership.

In considering war, we must avoid that adoration of the material as exemplified by scientists who deny the existence of anything they cannot cut or weigh.

In war tomorrow, we shall be dealing with men subject to the same emotions as were the soldiers of Alexander; with men but little changed for better or for worse from the starving, shoeless Frenchmen of 1796. With men similar, except in their arms, to those who the inspiring powers of a Greek or a Corsican changed at a breath to bands of heroes; all enduring and all capable.

No! History as written and read does not divulge the source of leadership. Hence, it's study often induces us to forget it's potency.

As a mirror shows us not ourselves, but our reflection, so it is with the soul and with leadership. We know them, but by the acts they inspire or by the results they have achieved.

Like begets like. In the armies of the great we seek the reflection of themselves and we find; Self-confidence; Enthusiasm; Abnegation of Self; Loyalty; and Courage.

Resolution, no matter how so adamant, mated to knowledge, no matter how so infinite, never begat such a progeny.

Such offspring arises only from blood lines as elemental as themselves. The leader must be incarnate of them.

Nor is the suggestion of Nicodemus as to rebirth (John III, 36) the only means of producing such a leader. There are certainly born leaders, but the soldier may still overcome his natal defects by unremitting effort and practice.

Self-Confidence, of the right sort, as differentiated from bumptious presumption based in ignorance, is the result of proven ability, the sense of conscious achievement. It's existence

presupposes enthusiasm for without this quality, no one could endure the travail of acquiring self-confidence. The enthusiasm which permits the toil and promises the achievement is simply an all absorbing preoccupation in the profession elected.

Endurance, too, is linked with self-confidence. Mentally, it is the ability to subvert the means to the end, to hitch the wagon to a star and to attain it. Physically, it presupposes sufficient enthusiasm to force on nature, no matter how reluctant, the obligation of constant bodily fitness through exercise. The expanding waist line means the contracting heart line, both in length and vigor. Witness Napoleon at and after Jena.

Abnegation of self seems perhaps incongruous when applied to such selfish persons as Frederick or a Napoleon, but this is not the case. Self can be subordinated to self. The Corsican leading his grenadiers at Lodi subordinated the life of Bonaparte to the glory of Napoleon.

Loyalty is frequently only considered as faithfulness from the bottom up. It has another and equally important application, that is from the top down. One of the most frequently noted characteristics of the great (who remained great) is unforgetfulness of and loyalty to their subordinates. It is this characteristic which binds, with hoops of iron, their juniors to them.

A man who is truly and unselfishly loyal to his superiors is of necessity so to his juniors, and they to him.

Courage, moral and physical, is almost a synonym of all the foregoing traits. It fosters the resolution to combat and cherishes the ability to assume responsibility, be it for successes or for failures. No Bayard ever showed more of it than did Lee after Gettysburg.

But, as with the biblical candle, these traits are of no military value if concealed. A man of diffident manner will never inspire confidence. A cold reserve cannot beget enthusiasm, and so with the others, there must be an outward and visible sign of the inward and spiritual grace.

It then appears that the leader must be an actor and such is the fact. But with him, as with his bewigged compeer, he is unconvincing unless he lives his part.

Can a man then acquire and demonstrate these characteristics? The answer is; they have they can. For, "As a man thinketh, so is he."

The fixed determination to acquire the warrior soul, and have acquired it to either conquer or perish with honor, is the SECRET OF VICTORY.



G. S. Patton, Jr., Major  
March 26, 1926

*This paper was edited for publication in **The Cavalry Journal**. In it's published form, it was approximately two pages less than the original and appeared under the title, **Success In War**. — Editor.*

SOME NOTES:  
ON THE EFFECT OF WEAPONS  
AND MEANS OF COMMUNICATION ON TACTICS

by Major George S. Patton, Jr.

Army War College  
1934

PERIOD OF FREDERICK THE GREAT:

Any investigation of the effect of weapons and means of communication on tactics should take its departure from the period of the Seven Year's War, because it was during this time that missiles propelled by gunpowder first definitely asserted themselves as the dominating influence of the battlefield.

In view of the foregoing statement it seems strange that Frederick, at the beginning of his reign, was a firm adherent of the theory of shock and to find him constantly urging his men to close with the bayonet without firing.

It took nearly two campaigns to fully disillusion him. Not until near the end of his wars did he actually commit himself definitely to the theory of war, which had made him great, when he wrote, in 1768, "BATTLES ARE WON BY FIRE SUPERIORITY."

There is, of course, a possibility that his delay was deliberate with the purpose of deceiving his enemies as to the secret of his victories, though when we consider the wide publicity he gave to the increased rate of fire of his infantry we are at a loss to follow his motives.

Before proceeding to a more critical examination of his tactics and the weapons which induced them, we may as well dismiss the question of communications, so far as this period is concerned, with the simple statement that no progress was made. However, the care which Frederick bestowed on training his light cavalry in scouting and reconnaissance shows the emphasis he placed on the objective part of communications.

Tactically, the Frederician wars marked not only the nascence, or better, the rebirth, of victory by fire, but also the culminating glory of so-called linear tactics.

Frederick's greatness lay not in the invention of either of these methods, but rather in perfecting the technique essential to their fullest exploitation.

Linear tactics, as understood in the latter half of the eighteenth century, were an outgrowth of their renaissance of infantry which had taken place during the Thirty Year's War. Due to the vivid memories of that conflict in which the infantry line, almost devoid of firepower, had been forced to maintain an unbroken front or else suffer defeat at the hands of cavalry passing through the intervals and taking the pikemen in flank, the leaders of the Frederician period continued to fight with rigid lines of battle drawn up in parallel order. These lines were usually four ranks deep and the formation was without a reserve, unless the heavy cavalry held back for the purpose of administering the "coup-de-grace" can be so called.

Not only were the formations rigid, but, further, the method of their assemblage was archaic; for, despite the fact that the Marachal de Proglgio invented the tactical division in 1759, Frederick and his enemies made no use of the device but continued to form and fight by battalion laboriously placed in position, and later maneuvered, by an inadequate staff.

Such a system had two glaring faults. It was very slow and it produced a formation almost wholly lacking in the power of lateral movement.

As we have said, Frederick made no basic changes in this system, but, by the use of rigid discipline and improved drill methods, he succeeded in gaining a relative superiority in mobility over his enemies.

These results he accomplished as follows; First, either he or one of his officers invented the iron ramrod. By the use of this instrument, coupled with a reduction in the number of movements in loading, he stepped up his rate of fire from one and a half rounds per man per minute to nearly four rounds per man per minute. This fact permitted him to reduce the thickness of his line of battle from four ranks to three and to still retain a marked superiority of fire when measured in yards of front. This thinner line controlled by Prussian discipline was now able to maneuver laterally and so gain a position from which a hostile flank could be crushed by superior fire effect.

While Frederick was too good a soldier to be bound by a normal method of attack, the ideal towards which he strove in what is called his oblique method was as follows:

After the enemy had formed line of battle, Frederick approached in column of platoons moving either parallel to the enemy front, at a distance of over 400 yards, or else approaching it at an angle.

When the head of his column had over-passed the enemy flank he executed Left or Right into Line by battalion, by simply wheeling the platoons of the unit in question into line. The battalions then approached the enemy in echelon with a distance of less than 100 yards.

In this way he refused his negative flank, though still maintaining his alignment, while with his striking flank he got across the enemy line and effected a fire concentration. The firing itself was conducted by platoon volleys, thereby exploiting the effect of successive intense concentrations. The French, Russians, and Austrians, on the other hand, fired by successive battalion ranks and, hence, failed to get similar effects.

In order to understand how such drill-ground tactics ever operated, we must remember that at this period musketry was not effective over 100 meters; while artillery, though having greater range, was in small numbers and used mostly solid shot.

During this approach Frederick used his heavy cavalry to bluff the enemy into remaining stationary, while after he had pulverized them with his musketry fire he launched his cavalry against the weakened flank or rear to clinch the victory.

Frederick's improvements were not confined to his infantry and cavalry alone. He lightened and standardized the field guns, invented horse cavalry, used accompanying guns and attacked medium artillery to his advance guards for the purpose of rapidly removing material obstacles.

In staff practice he also began the separation of the general and the administrative branches.

In resume, then, it may be said that during this period musketry fire was the controlling factor and that the tactics evolved were for the purpose of exploiting its death dealing potentialities to the uttermost. None-the-less, it is worth while, remembering the old saying that, "To have a Cannae you must have a Varro." Frederick never faced a really first class opponent.

#### PERIOD OF NAPOLEON:

In the same way that Welles in his Outline of History starts with a description of PREHISTORIC men so must a study of Napoleon start with an investigation of the PRE-NAPOLEON French Armies. Nor having disposed of these can we take him all in one bite as he advocated doing in the case of the famous cherry of opportunity. To trace tactical development under him we must separate his activities into two phases; the first from 1796 to 1805; the second from 1805 to 1815.

In 1792, the rawest battalion in the French Army could boast at least one year's disciplinary training. Even with the regulars the pernicious influence — sprung from the democratic demand that officers, up to include the grade of captain, be elected — had removed or at least materially reduced their disciplinary efficiency. Now, in spite of this fact, since the armies of the Republic in their earlier years were more often victorious than otherwise it is expedient to see how they fought.

#### PRE-NAPOLEON:

In 1774, a Frenchman by the name of Mesnil-Durand had attacked the Linear Tactics, based on the use of ten company battalions, which fought with two companies as skirmishers and the other eight companies in a double column formation.

In 1791, this system was adopted as the Drill Regulations of the French Armies. Due, however, to that conservatism and reverence for the past, which is the hallmark of soldiers the world over, the Durand system was adopted only half-heartedly. Furthermore, since the state of discipline necessary to permit maneuver in close order under fire was totally lacking, the soldiers simply left ranks and under the impetus of what du Picq calls "A Retreat Forward" regrouped themselves in dense skirmish lines both for the assault echelon and for what meager supports they were pleased to hold out.

Another peculiarity of the French Army at this period was the fact that they alone of all the European forces used tactical divisions for both maneuver and combat. Here again they failed to get full value out of the idea which was originated by de Broglie in 1758; because they were so obsessed with the notion of mobility and double envelopment that they over-dispersed. For instance, at Wattignies, in 1793, Jourdan with 58,000 men attacked on a front of 20 kilometers. While as late as 1799 Napoleon, in speaking of the defeat of this same Jourdan at Stocmac, says, "His divisions were too far apart and his field of battle was three times what it should have been."

In view of the foregoing, how, it may be asked, did the Republican Armies conquer?

The answer seems to be that their success was due to a combination of the following circumstances; First, the fierce ardor aroused in the opening years — and then alone were they successful — by the belief that they were the disciples of a new freedom. Second, the incessant bickerings of the Allies which usually resulted in there being a numerical superiority on the side of

the French in every battle. Third, to the fact that in fighting against inferior numbers deployed in rigid formations over-extension was not as fatal as it might have been. Finally, due to poverty, the French marched very light, and hence, were much more mobile. At this time, for example, the number of baggage animals with a French battalion was just one-tenth the number with a Prussian.

However, as has been indicated, the honeymoon did not last. Already, in 1794, the Austrians began using skirmishers to the extent of one-third of their line, and in this same year at Landrecies they badly defeated the successive French skirmish lines by decimating them with skirmishers of their own and then by charging with formed columns.

As a result of this defeat, for which the French General was executed, the “Heroes of the Republic” began to change their formations and back up their skirmish lines with a support formed from a double row of battalion columns in checker formation, each battalion on a front of two platoons.

In the winter of 1793-94 the regular and volunteer units were amalgamated in demi-brigades in the ratio of one regular to two volunteer battalions. At this time, also, all battalions were given serial numbers instead of the place names which had before designated them.

Next winter (1794-95) the army was further reorganized into permanent divisions consisting of from three to four demi-brigades (nine to twelve battalions) of infantry and from four to six squadrons (troops) of cavalry.

In order to complete the picture, mention should be made of the fact that the musket was of the model of 1777; that it weighed eleven pounds; that it had an effective range of 200 yards and a maximum range of 500 yards; that the rate of fire was two rounds a minute; that each soldier carried sixty rounds; and, finally, that a good shot could not make 50% of hits on a 6 foot by 6 foot target at 75 yards.

#### FIRST PHASE, 1796 TO 1806

Such in brief was the type of army with, on April 12, 1796, at Montenottes, Napoleon inaugurated his career.

This very first fight saw originated the change in the handling of divisions, which was to be one of the characteristic features of his method. Instead of far flung units more or less uncontrolled, save in being directed to go to the battle field and fight, we see at Montenottes coordinated units which, while they retained their individual mobility, none the less exercised it exactly in accordance with the intention of one will. Napoleon separated his divisions and afterwards his army corps for marching when by so doing he could gain time, but he concentrated them for fighting, often in fact effecting this concentration on the very field of battle itself.

While even his most ardent admirers do not claim for Napoleon pre-eminence as a tactician, it is none the less a fact that beginning with him French tactics improved and that this improvement first appeared in their Army of Italy. Napoleon would not stand for the unsupported skirmish line and changed the support echelon from a line of battalion columns to one wherein the skirmish line and support came from some unit. The usual attack formation used by him was in each demi-brigade one battalion as skirmishers, supported in rear of each flank by the other two battalions in column, or else two battalions in skirmish line with the third in column as support two hundred

yards in rear of the center. After 1803, when he had scrapped the demi-brigade and restored the two battalion regiment, a brigade attacked with one regiment in line of skirmishers followed by the second in line of battalion columns, with the two support battalions in rear of the flanks.

Considering the range of the musket and even of artillery, it is evident that such a formation was workable and produced a high degree of firepower.

None the less nothing so far apparent in the Napoleonic or Pre-Napoleonic method of war can be traced to the effects of the weapons. On the other hand, it is very apparent that the two tactical changes we have noted; namely, the excessive use of lines and the modified return of columns, were the result of the effect of man on weapons. The first method arose in response to the enthusiasm of the Republican volunteers; the second to the dominating spirit of a leader of men who had replaced enthusiasm with experience.

## SECOND PHASE, 1806 TO 1815

By 1806, the Allies, true to the saying that, "Sweet are the lessons of adversity," had all adopted the French system, including the creation of Army Corps, which Napoleon inaugurated in 1805.

But in 1806, on the other hand, Napoleon had altered his. Possibly this change was due to his often repeated statement that tactics should change every ten years, but more probably it was due to the necessity of withdrawing many experienced officers from old units to form new ones. Due to this latter reason, his men became less well trained, his companies increased in size, while his regiments were doubled. In order to handle these ill-officered and clumsy units, heavy columns almost devoid of firepower had to be used.

About the time that this change had been effected, the battle of Eylau was fought (February 8, 1807). In this battle, 80,000 Russians stopped 90,000 Frenchmen, with a loss of 30,000. So much of this ill success was due to the effect of the massed Russian artillery playing on the French columns that Napoleon was impressed and at once began increasing the ratio of guns to men from something like two and a half to a thousand to nearly four to a thousand. So expeditious was he that in four months; that is, on June 14th, at Friedland, he almost won his battle by artillery alone. After this date his tactical method resolved itself into blasting a hole with case shot from massed guns and then of exploiting the success with a column. The classic example of the successful use of this system occurred at Wagram on July 6, 1809). (NOTE: Napoleon's unit of fire was 500 rounds per gun.)

The tremendous power of this form of attack lay in the fact that, while the effective range of musketry was only 200 yards, that of grape was 400. Considering the range rate of fire and density of the target, it is claimed that Napoleon's Grape Shot Attack has never been equaled in death dealing intensity, save by the fire of the English archers in the Hundred Year's War.

On the other hand, it is interesting to remember that against regular troops, such as Wellington had in Spain, both the columns and the grape shot failed.

Wellington avoided the latter by occupying reverse slope positions while against the former he sent swarms of skirmishers who tortured the helpless mass with flanking fire, while at the last the two deep English line gave it one volley at 50 yards and then charged enveloping both flanks.



Again, however, we must remind you that a Varro is necessary for a Cannae.

Tactics and even strategy are only media through which the burning genius of a leader expresses itself. Weakness in three respect may dull the picture but cannot destroy the art.

#### PERIOD OF THE CIVIL WAR:

The outstanding characteristics of the Civil War was the manifest superiority of defense over attack.

In general, two circumstances account for this fact; First, the war was fought by amateurs on both sides; Second, it inaugurated the use of rifled small arms.

More specifically, we may note the following:

Untrained troops can hold a position much more easily than they can take one. To hold it they have only to shoot; to take it they must both shoot and move.

In the first year of the war staffs were inadequate in numbers and wholly untrained; until 1864 they were still untrained, though of nobler proportions. Hence, orders were usually vague and often not distributed. In substantiation of these remarks let me call your attention to the fact that at the First Bull Run, McDowell had a staff of two men.

At Malvern hill the order which was supposed to launch five divisions in a coordinated attack ran thus; "General, batteries have been established to act upon the enemy's line. If it is broken, as is probable, Armistead, who can see the effect of the fire, has been ordered to charge with a yell. Do the same." (Battles and Leaders; Vol. II, page 592).

As late as March 1863, General Lee wrote to President Davis on the subject of staffs and training, as follows; "The great difficulty, I find, is in causing orders and regulations to be obeyed. This arises not from a spirit of disobedience, but from ignorance. We have therefore need of a corps of officers to teach others their duty, see to the observance of orders and to the regularity and precision of movements. This is accomplished in the French service by their staff corps .... if you can fill such a staff with proper officers you will have the finest army in the world." (Memoirs of R.E. Lee, page 619).

General Hazen of the Union Army, writing on the same subject, says, "... I am strongly impressed with the immense loss which our country sustains in consequence of the indolence, ignorance, and shiftlessness of it's officers." (The School and Army in Germany, page 221).

This same lack of training resulted in a total absence of fire discipline with the result that, in spite of the fact that the soldiers carried 60 rounds into battle and had 90 more in the regimental combat train, they were eternally running out of ammunition and using this as an excuse to stop; as witness Burnside at the First Bull Run.

Indiscipline and lack of drill were also responsible for the countless cases of where two lines having gotten within fifty paces of each other failed to close and simply shot it out. For, as Henderson says, "Mutual confidence is the force which drives a charge home; this quality is the first fruit of discipline ..." (Science of War).

However, we cannot place the whole blame for the failure of the offensive on training; other circumstances also contributed.

For example, the rugged and wooded nature of most of the country made the erection of log parapets easy and, consequently, gave a strength to the defense not seen since the time of the Roman Camps.

Finally, a factor which from the viewpoint of this paper is of paramount interest resulted from the alteration in the relative efficiency of rifle and artillery fire.

While the decisive range of the Civil War musket was only 250 yards, its effective range was between five and seven; that is, effective against large targets such as columns or batteries.

On the other hand, while the guns had an effective range with shell up to from 1,500 to 2,500 yards, depending on the nature of the weapon, the effect of canister ceased, as in the days of Napoleon, at 400 yards. Further, the lethal effect of the shell of that time was very low, possibly as small as that of the 75 today. As a consequence, artillery, even when used in masses as at Malvern Hill, Gettysburg, and Fredericksburg, had very little effect on the infantry. So true was this that artillery duels, with the result that when the infantry attacked they had to come up against practically unshaken infantry. Now frontal attacks against such people have never been either successful nor healthy.

Having considered the general characteristics of the men and weapons of the Civil War, let us see what tactics were evolved to utilize the one and exploit or evade the other.

In theory the tactics used were a copy of the French, and consisted in using small columns preceded by skirmishers. In the regiment, which really was a ten company battalion, the orthodox formation was two companies as skirmishers followed by the rest of the regiment in column of double companies, each company in line; for the brigade one regiment deployed as skirmishers and the rest followed in some grouping of regimental columns.

For the attack of divisions the formation was supposed to be three lines; the first line arranged as just described, the remaining ones in line of columns.

But just as in 1793 the columns broke up as soon as they got under fire, with the result that the men moved forward in three dense skirmish lines which, due to losses and slackers, merged into one line at the crisis of the fight.

This gave rise to the complaint of foreign observers and many of our own officers that there was no tactical maneuver in the Civil War and that battles degenerated into parallel shooting matches.

As experience and discipline improved heavier formations were sometimes attempted.

At Chickamauga, seven lines were used; at Spottsylvania, two divisions were formed in line, one behind the other, followed by two more divisions in column of brigades.

In Jackson's attack at Chancellorsville he formed three divisions in line, one behind the other.

At Chattanooga, Grant attacked with four divisions abreast, each in three lines. This last formation resulted in the least confusion and was the tactical masterpiece of the war.

The utter inability of the Civil War leaders to devise a means of producing fire and movement, or more accurately of producing an opportunity for movement by the use of fire, resulted either in victory for the defense or draws, except where, as at the Second Bull Run, Chancellorsville, and Cedar Run, to name the outstanding examples, recourse was had to turning movements. But whether or not such operations appertain to the field of tactics or of strategy is a moot question.

If, however, the infantry and artillery made little progress in tactics the cavalry, on the other hand, evolved a form of war never before seen and which will, in the future, especially when supported by machines, probably be the dominating influence in war.

However, here, too, we can trace evolution.

At first, lack of discipline cramped the style of even such leaders as Forrest because as he is alleged to have said, "The difficulty of converting raw men into soldiers is enhanced many fold when they are mounted. Both men and horses have to be trained."

When training was achieved the American Cavalry were vastly efficient, particularly in counter-reconnaissance, raid, and delaying action.

Stewart, it should be remarked, perfected a system of successive withdrawal by the combined use of guns and dismounted fire which deserves serious study. (See Von Brock). Due to our familiarity with our cavalry methods, we are apt to underestimate it's revolutionary nature and it's efficiency. In Europe, even today, people do not quite get the notion.

Viewed from the standpoint of communications, the Civil War marks a new departure.

During this struggle for the first time the electric telegraph and the railroad were widely used.

Due to the telegraph, news of Jackson's move on Front Royal reached Washington in time to halt McDowell at Fredericksburg and so possibly prevented the capture of Richmond in 1862. On the other hand, the absence of wire or radio permitted the battles of Cross Keys and Port Republic to be fought and won.

It would seem that Jackson's flank marches, both at the Second Bull Run and at Chancellorsville, would have been impossible today; yet, as a matter of fact, they were both observed and accurately reported. That no action was taken in either case only reaffirms the statement made by Ben Johnson, I believe, that, "You can give a man facts, but not intelligence."

Turner Ashby and the railroad from Piedmont to Manassas let Johnston arrive in time to beat McDowell. On the other hand, it now seems evident that had the South a general-in-chief, much greater use could have been made of railways to move troops on interior lines from east to west and back, than was done. By their use and a little intelligence, the 50,000 Confederates in trans-Mississippi might have been saved to fight.

On the Union side, Sherman's masterly use and timely abandonment of railways is a profound lesson.

## PERIOD OF THE 1866-1871 WARS:

So far as I know, the Austro-Prussian War of 1866 furnishes the only instance in wars between two civilized opponents, where weapons played the decisive role.

The Prussian breech-loading Needle Gun, designed in 1841, had a maximum range of 1,000 yards and an effective range of 800 yards, with a rate of fire of seven shots a minute. The Austrians, on the other hand, while they had a rifle of almost equal range and accuracy, were handicapped by the fact that, since it was a muzzle-loader, its rate of fire was less and they could not load in a prone position. As a result of this condition, whenever the two lines got to decisive range without yet having established a fire superiority, the Prussians won, for their prone position fire simply withered the Austrians who had to rise to load.

In theory, the drill regulations of the two armies were based on the use of columns for maneuver and a limited proportion of men as skirmishers for fire. In practice, the Austrians, aware of their inferior weapon, pinned their faith wholly on the illusory power contained in the idea of "shock effected by masses." The Prussians, on the other hand, drilled as they were to a high state of individuality, broke out of column not to avoid losses, but to have a chance of getting into the firing line, where with their new weapon they could inflict them. The result of this practice was that the ratio of losses of the Austrians to the Prussians was as five is to one. At Kiniggratz, the first battle in Europe wherein more than two hundred thousand men on a side participated, the casualties stand at 45,000 for the Austrians and 9,600 for the Germans. As is always the case, the maximum casualties occurred after the break.

It is of interest to note that with the advent of a small arm of range and precision, the task of the infantry man was made more difficult and the need for target practice, never heard of in Napoleon's time, became vital. In our own army, there was, so far as I know or can find out, no regular target practice until 1870.

So superior was the German infantry that it alone won the war. Whether or not the very faulty use they made of their cavalry and artillery is due to this fact is a moot point, but certain it is that the excellent technical material composing the Prussian batteries was never properly employed. At Koniggratz, for example, 80 guns never got into action at all and those that did fire utilized excessive ranges.

On both sides the Cavalry was held in masses behind the infantry and failed utterly to accomplish anything.

1870 — 1871:

In spite of the lessons of our Civil War (of which they knew little), and of their own experiences against Austria, the Prussians held to the belief that columns were necessary for maneuver and that for the assault these columns should deploy into line of battle, closing on the skirmishers whom they considered not as the whole show, but rather as adjuncts to the columns. Neither then (1870) nor in the post-war drill regulations of 1873, would they admit that skirmish lines and lines of battle are synonymous.

By way of reaffirming a statement I have made elsewhere that weapons seldom decide wars, we find that the Needle Gun of the victorious Germans was as inferior to the Chassepot of the defeated French as it had been superior to the muzzle-loader of the unfortunate Austrians.

Strange to say, the French who had not fought in 1866 were so impressed with the Austrian losses, which they rightly attributed to an excessive use of columns, they adopted lines to such a degree that they could hardly move at all. Further obsessed with the superiority of their weapons, they determined to exploit it, by the occupation of defensive positions; and, in order to get the utmost field of fire, they occupied the front slope, forgetting in that act the bloody lessons which Wellington had taught their fathers in Spain. Further, having secured the field of fire, they utilized it by opening at excessive ranges, with the result that, although they carried 90 rounds per man to the German's 80 rounds per man, they always ran out of ammunition first. Even when they attacked, they insisted on firing too soon and in doing so slowed up their advance to no useful purpose.

Two other technical factors militated against the French; First, the Mitrailleuses was far less lethal than they had supposed, and by using it in batteries and at excessive ranges they largely nullified what merits it had. Second, someone decided that the fuses should not operate between 3,000 and 1,500 yards, with the result that the Germans found nice battery positions almost unmolested. Positions from which they could make splendid practice on the terribly visible and exposed French positions.

On this question of time fuses for the French shell, it is instructive to note that under Gambetta in 1871 time and facilities did not permit the manufacture of time fuses, so they used percussion shell and with inferior gun crews made better practice.

In 1869, Moltke wrote a secret memorandum to the commanders of higher units in which he cautioned them that, owing to the deadly fire of modern small arms, the defensive was stronger than the offensive and, hence, when possible, they were to use offensive strategy and defensive tactics. (What Lee failed to do at Gettysburg).

Since, as I have already mentioned, the French had the same idea, the Germans could not utilize the scheme.

In making their attack, they still depended on the use of company columns at deploying interval. These units formed the first echelon which numbered nearly two-thirds of the force, the support line was in line of columns of battalions, and the reserve line similarly arranged. The idea was that when the assault echelon reached 600 yards (the effective range of the German fire) each company would deploy one "Zug" (platoon); that on getting to about 400 yards, the second platoon would go in, and that at the climax of the fire fight, which they thought would be between 300 and 100 yards, the third platoon would go in and at the same time the columns of the support echelon, covered by the fire of this heavy skirmish line, would come up and charge.

Actually, they began getting casualties at 1,000 yards, long before they reached 600 yards. The assault echelon, the support, and the reserve, when it was present, had been forced to deploy. Further, since it was easier to shoot back than to simply be the receiver, their rear echelons either skulked or sled closed on the front, with the result that the assault ended with only one skirmish line. Further, since there was not room in this line for all of the men, it extended laterally and we

have the apparent effort of every German attack from a company to an Army Corps, to execute a double envelopment.

After the bloody repulse of the Guards at St. Privat, the Germans admitted the impossibility of using columns under fire, and thereafter deployed their rear echelons. But, the higher command did not approve and put the columns back into the drill regulations of 1873, as did the French in theirs of 1875.

Another incident connected with St. Privat is noteworthy. While the French stopped the Guards at about 300 yards from their main position and only withdrew when the Saxon Corps enveloped them, the fact that the Guards had pushed on so close in spite of the devastating fire so worked on the French that many went to the rear, and it is claimed that had the guards attacked with the usual reserve, which this day was absent, they could have taken the village without the help of the Saxons.

The following statement on the effect of fire on formations made by Captain May, written shortly after the war, is pertinent. He says, "The far and sure carrying arms of precision of the present time forbid supports and reserves in closed columns, except where the ground is favorable for such formations. It is apparent that either the old secondary formations have become impossible on account of the greater range of the missiles, which cause the necessary distance to become so much increased that there can finally be no relation between the supports and the engaged line; or the supports see in the loose opened-out formation the proper means to adopt, and thus, of their own accord, they rush up into the first line." (History of Tactics, page 81).

Two other points which first appeared in warfare at this time may be attributed to the long range small arms. The great increase in straggling; open formations and the removal of control by the use of the prone position. The enhanced power of resistance of a thin line against direct attack, giving time for distant supports to arrive in time.

As has already been pointed out, the German artillery of 1866, though excellent in type, consisting as it did of breech loading steel rifles, was poorly handled. However, they learned by their mistakes and, in 1870, the teamwork between the artillery and infantry was excellent. The very fact that they changed the name of their artillery from "Reserve Artillery" to "Corps Artillery" is significant.

Every advance guard was accompanied by guns, the rest of the artillery marched at the head of the main body, often with nothing but a battalion ahead of it. It was controlled in masses, came into action very fast, and at effective range; the foolish fear of losing guns had vanished and it was pushed well to the front. The method of combat was to fire on the enemy infantry when on the offensive (however the guns ceased firing as the infantry charged), and on the artillery when on the defensive. Despite the fact that the guns were used in the Napoleonic manner, the results attained were not as marked shell and shrapnel were and are less effective than case shot, but small arms fire has ruled case shot out. As a result of this, we find that, in spite of excellent use of a superior artillery, deployed order and generally superior numbers, no frontal attack attained decisive results, as in the Civil War victories were either Pyrrhic and not followed up, or else were attained by flank attacks. Sedan, of course, was an exception; for, while the troops were in position for an almost complete envelopment, it was not necessary for the guns and MacMahon did all of the work.

There was a vast improvement also in the German use of Cavalry between the two wars. In France, it did excellent work in reconnaissance and counter reconnaissance. But, neither the Germans nor the French attained the efficiency we reached, nor did they discover then or later that "Cavalry Country" has changed from open to closed terrain.

In battle, the cavalry did little, but on the one or two occasions that it was used, it was worthy of its best traditions; notably was this the case at Vinonville, on August 18, 1870, when von Bredow's charge stopped the only bid the French made for victory.

## PERIOD OF THE SOUTH AFRICAN AND RUSSO-JAPANESE WARS:

### SOUTH AFRICAN WAR:

The armament of both opponents in the South African War was of a highly modern character; that is, magazine rifles, smokeless powder, and machine guns were much as at the present. The artillery, on the other hand, was not quite so advanced in that having a fixed recoil it was not a true quick firer; it lacked shields, and was not adapted to indirect laying.

The British 15 pound field gun had a range of 6,000 yards, but the fuses for shrapnel reached only to 3,360 yards. The 5 inch howitzers and the 4.7 naval guns had a slightly longer range.

Other factors also tended to minimize the lessons obtainable from artillery in this war. In the first place, the ratio of guns to men was low; 2-1/2 per thousand for the British and 1-3/4 per thousand for the Boers. Then, also, the methods of fire and the means of cooperation left much to be desired.

With the British, it was the rule to use batteries independently and to try to gallop them to short range. Having arrived in position, they indulged in long preliminary bombardments, sometimes of a day or more in duration; but, since during these preparatory fires, the infantry did nothing and not infrequently remained in camp, there was no threat of an impending attack to force the Boers to occupy their lines. Realizing this, they kept both their riflemen and their guns concealed and, since the British were never to locate either the trenches or the gun positions with reasonable accuracy, their fire degenerated into the innocuous searching of localities with inadequate means.

When the British infantry finally moved out, the guns stopped firing, or at best only continued to shoot until the leading echelon had reached a point 600 yards from the enemy. This practice gave the Boers ample time to man their trenches and to open uninterrupted fire on the attacking infantry with both rifles and cannon.

As has been indicated, the Boer method was the absolute antithesis of this. They did no preliminary shelling, shunned artillery duels, and concentrated all of their means of fire on the promising targets presented by the dense formations of the hostile infantry.

When, however, the British had no guns, or when they found means of taking march columns under surprise fire, the Boers did fire first, and with great effect, at extremely long ranges.

The training and theory of war of the two opponents was as different as was their use of the combined arms.

With the Boers, due to their wholly indisciplined natures, prompt or concerted military action of any kind was impossible. Never was the truth more fully demonstrated than in South Africa of the two hackneyed phrases, "The offensive alone can produce decisive results" and "Discipline is the main strength of armies."

"The Boers at the beginning of the war were more numerous than the British; the situation was made altogether favorable to them by their knowledge of the ground, by the sympathy of the inhabitants, and by nearness of their resources. In their first engagements they obtained success by surprise which placed at their mercy they British troops, but they never derived any advantage from it. Without commanders whose authority was recognized, they were too free to follow one of themselves. So much liberty cost them their independence." (Colin, Transformation of War, page 53).

Their tactical dispositions consisted in placing all of their riflemen in one line on a tremendous front which increased as their fear of envelopment grew. For example, on the Modder River, 5,000 men occupied a front of seven kilometers; later at Colenso 4,500 men occupied a twelve kilometer front. Due to the mobility inherent in their horses, and to the fact that the British usually failed to engage their whole front, they were able to bring supports from the disengaged portion of the line to strengthen the parts that were hard put to it.

Their guns were as much scattered as were their riflemen and they were worked on an equally independent system. For delaying actions, such tactics were ideal, but for victory, impossible.

The British ideas and tactics were the direct reverse of those of the Boers.

Strategically, they believed in an unlimited offensive; tactically, in shock.

Due to their recent experiences in the Sudan and to the fact that at home all of their maneuvers were restricted to the narrow limits of military reservations, they had a marked predilection for the employment of masses.

On the other hand, due to long experience in Colonial Wars, men, officers, and the public forgot that in major operations a considerable proportion of losses must be suffered if the attack is to be pushed home. Small losses were reported as serious and public opinion measured the capacity of a general officer in inverse ratio to his casualty list.

These conditions produced a peculiar psychological reaction, for the only time in history that the British lion ceased to be a dangerous carnivorous animal and assumed the nature and manners of a house cat. There were sad cases of surrenders for the purpose of "avoiding unnecessary losses" when those losses were infinitely small. Hard won positions were abandoned, and other unpleasant things happened. Fortunately for England, this frame of mind did not last. Two quotations from the "Life of Sir Stanley Maude" (the conqueror of Bagdad) are illustrative. In his account of the engagement at Diamond Hill, wherein he functioned as Brigade Major of the Guards Brigade, we find these sentences, "At 2:30 p.m., 2nd Coldstream (Guards), under cover of artillery fire moved against the main Bonkerhoek Ridge and occupied the same at 3:15 p.m. I went up with the firing line. Under heavy fire until 5:30 p.m. I was that we could not advance further as we were on the side of a big ravine commanded on the other side by the Boers. At dusk, in the absence of the general who had not come up, I arranged to take up an outpost line on the line we held. Casualties for the brigade were one officer and eleven men." And they could not advance?



Some years later, when Maude was commanding in Mesopotamia, his biographer, General Callwell, in connection with the bloody attack of General Cobbe's Corps at Sannayiat, says, "One of Maude's outstanding merits as a commander in the field indeed was that, in spite of his constant solicitude for the comfort and well being of the troops serving under him, he never shrank from losing men when there was a definite strategical or tactical objective to be gained by so doing." (Life of Sir Stanley Maude, by General Callwell, pages 53 and 264).

The tactical formations used by the British at the beginning of the war, while closely following those of other European countries, were singularly inapt to the gaining of victory, more especially as the teamwork between the guns and the infantry were wholly wanting.

In the attack, the regulations recommended an advance, if possible, to within 800 yards of the enemy without deploying. A brigade usually advanced in mass to within that range and then divided into three lines. The first line, consisting of two battalions, had a front of 600 yards or so. In the firing line they were the equivalent of four companies on line of platoon columns or some such analogous formation. Against 400 yards and we have the first line reserve consisting of two half battalions. 800 yards further back came the second line, consisting of one or more battalions in mass, and then the third line, composed of one battalion which was 800 yards to the rear of the second line. This gives a depth of 2,400 yards to a front of 600 yards.

The second line was to decide the action by advancing to the assault. The third line, or reserve, was not to be used in the assault, but for the purpose of pursuit. The idea seems to have been unknown to use the last man if necessary to gain victory.

Little attention was given to the fire fight. The whole system was based on volley firing. The sections having advanced by rushes to about 350 yards, were to fix bayonets and advance by short rushes again to the storming distance, which was supposed to be between 250 and 200 yards. Half of the number of rounds in the magazine (five) were then fired and the second line, by this time having closed up both lines, was to charge.

The extent to which the British had been lead by savage warfare, to forget their own practice in Spain, cannot be better illustrated than by quoting some actual orders. On January 12, 1900, General Buller wrote, "... the men must get close quarters with the enemy. That is the way to victory and safety! Any retirement is fatal. The only thing that the enemy cannot stand is a hand-to-hand fight with us." Shortly after this, General Warren reported that the best course would be to, "... keep the Boers, as they lay in their trenches, under an overpowering fire of artillery, until they should be disheartened, and till their position should be almost ripe for assault, and then the infantry should be sent forward to rush them."

As the war progressed, the same phenomenon took place as had appeared in 1795, 1862, 1866, and 1870. Columns, no matter how nice to maneuver or how impressive to look at, could not live in the zone of effective small arms fire. However, the British swung very far indeed. To avoid losses, due to surprise and long range fire, they deployed brigades into line of battalion with extended intervals, each battalion being in column of companies with the companies in deployed line. This formation was, on occasion, taken at a distance of six miles from the enemy. While it certainly gave a diversified target, it also provided a formation which could only move in two directions; forward or backward.

Further, since experience had impressed on them the difficulty of getting supports to join the firing line during a system of attack, which made not even a pretense of gaining fire superiority, they solved the problem by putting all of the men into the firing line to begin with. This scheme was fraught with the disadvantage that the intensity of fire capable of being delivered diminished as the crisis of the fight approached. Further, it deprived the soldier of the real, though probably fatuous, notion that he was being pushed on by supports from behind who would eventually take over his job. Finally, the line was not articulated, but moved as a whole, or did not move at all. Each of the foregoing was a sufficient handicap to foredoom the new method to failure. But, the mental attitude which still pervaded the British theory of attack was even worse. Still, the fire fight was ignored. The deployment was only to reduce casualties, not to increase those of the enemy. So, the scheme failed, except on one or two occasions where superior numbers or effective artillery support gave the necessary aid. When this happened, the British became very discouraged indeed, and, believing that frontal attacks were impossible, had recourse to turning movements. But, since they committed the error of not attacking in front with enough force to pin the enemy, the Boers simply pulled out when they got ready and without opposition occupied the next rise in the rear.

The foregoing account of the war in South Africa in common with all other such descriptions seems at first glance to be an account of British defeat; remember, however, that they won the war. This victory, while in part attributable to superior numbers, is primarily the triumph of discipline, cohesion and the offensive spirit over adversaries who, despite many fine qualities and natural advantages, lacked these primary military attributes.

At this point, it is interesting to note that at the beginning of the Civil War, the Boer War, and of the initial use of mounted troops in Palestine, very little use was made of mounted combat, as the troops forming the Cavalry in these three wars improved in discipline more and more and recourse was had to mounted methods.

#### RUSSO-JAPANESE WAR:

Considering the fact that the South African and Russo-Japanese wars are so nearly contemporaneous, the difference in the tactical methods used and the improvement in the cooperation of the arms shown are most arresting.

From the standpoint of weapons, the Manchurian contestants were practically equal; for whereas the Japanese rifle was somewhat superior to that carried by the Russians, the wounds that it produced were less severe. On the other hand, while the Russian gun was a semi-quick firing weapon, as compared to the Japanese, which was not. The guns were new to the men, and the Russians were always weaker in artillery. Generally, the figures show that there were 2.2 guns per 1,000 Russians and 3.5 rifles with the Japs. In the opening battles, the disparity was even greater.

On the offensive, their usual role, the Japanese used their artillery fire first to neutralize enemy guns, leaving only a small proportion, about 1/10th, to fire at the infantry. Then, when their own infantry attacked, they reversed their ratios and maintained their fore up to the point where the lines met, frankly accepting the fact that such a method cause some casualties to their own men.

So impressive and extensive was their use of artillery, that one British observer wrote at the time, "... artillery is the decisive arm, the others are no more than auxiliaries." (Colin, page 49).

The Japanese laid great stress on the fire fight and predicated their advances on gaining and maintaining fire superiority. Their men were better marksmen than the Russians and expended much more ammunition, often taking into action as much as 400 rounds. (The fact that their rifle was merely a .25 caliber makes this feat quite possible).

They developed the fire fight by the use of a heavy skirmish line in open country and by the use of a line of articulated groups in broken ground. All advances after the zone of effective fire were reached by rushes of alternate portions of the line. When a line could no longer move forward, it dug in and held on. The costly withdrawals which the British sometimes used in South Africa were not seen.

The supports and reserves moved in line of small columns (platoons), deploying when necessary and reassembling when the fire permitted. All firing was individual.

The Russians, on the other hand, failed to concentrate the fire of their artillery. Further, they seemed to have forgotten the lessons of the war with Turkey; for in their Drill Regulations of 1900, they stressed the gaining of victories through shock action applied with masses. No stress was placed on the gaining of fire superiority by the combined use of both guns and musketry. All firings were by volleys. Even in local counter attacks, they made no effort to maneuver or fire, but simply charged with the bayonet straight to the front.

While both sides had machine guns, they were too clumsy to be carried in the attack. Those used by the Russians had the further disadvantage of being on such bulky wheeled carriages as to provide splendid artillery targets. Defensively they did some good, but contrary to modern practice they were used at extreme ranges.

Speaking of Machine guns, it is interesting to note that in February, 1904, the Russian forces in Manchuria, numbering 96,000 men, had only 228 cannon and 8 MACHINE GUNS.

Due to poor commanders, lazy and ignorant staffs, indolent officers, and men who took no interest in the war, the morale of the Russians was low and got even lower. Since their manuals advocated the holding out of large reserves for unforeseen contingencies, their defense was passive and not too vigorous; yet, in spite of this, no frontal attack ever succeeded unless supported by an overwhelming artillery fire or aided by an envelopment; generally both.

The Japanese made use of darkness, both to cover their moves into the assault position and also on occasion for their assault itself. Contrary to precedent and to the Russian practice, their night attacks were made in line.

For the first time in this war, telephones were used to a considerable extent for the transmission of orders. Wire, trenches, and battles on long fronts, some lasting for several days, made their debut.

The Cavalry on both sides failed to distinguish itself. With the Russians, this was due to the fact that there were only two or three European Cavalry regiments present; the Cossacks were worthless. With the Japs, small numbers and very inferior mounts were the reasons. Inferior horseflesh also reduced the mobility of their artillery.

In closing it is interesting to remark that all of the contemporary comments stress the fact that, due to the difficulty and time which is incident to the distribution of orders, the need for uniform

methods of thought and tactics which will secure automatic cooperation without orders was more marked in this war than ever before.

#### PERIOD OF THE WORLD WAR:

Due to the copious amount of available data, there is a strong temptation to devote undue space to an examination of the World War. However, I have attempted to treat it in as summary a manner as I have used in dealing with its predecessor, because otherwise, I would fall into the usual error of so emphasizing its teachings as to distort the picture and so color my ideas of the future by the too vivid reflection from the immediate past. Viewed in a broad sense, the World War is roughly divisible into three phases; the beginning, the middle, and the end.

#### FIRST PHASE:

In 1914, the armies of all of the belligerents were composed of what they severally believed to be the most effective type of trained soldiers. While these notions were, to a degree, effected by political and financial considerations, there was a remarkable similarity in type among all of them, save only the British and almost complete unanimity of tactical ideas as expressed in writing.

However, the varying degrees of emphasis which traditions and race instinct caused them to place on their several texts resulted in quite diverse translations of the written word.

For example, in the case of the Russian Drill Regulations which were in vogue at the start of the war, we find that its authors, remembering doubtless Plevna and Manchuria, wrote as follows, "The infantry batters down the enemy with its fire, then with the bayonet breaks down his last resistance." The whole point to this idea is centered in the amount of "BATTERING" that the enemy was supposed to sustain before he was ripe for operation with the bayonet. It was here that instinct outweighed memory and that the Russians failed.

The French, while fully in accord with the need of securing fire superiority, started the war with the leaving of this duty almost wholly to the artillery, as noted by this paragraph from their regulations, "Infantry is the main arm; it fights through fire and on the move. Only forward movement, leading to hand-to-hand fighting, is decisively irresistible, and usually an effective and strong fire has to open the road to pierce the enemy. Artillery fire, which has only a very slight effect on an enemy under cover, can never by itself drive the defender out of his position. The advance of the infantry must compel the enemy to show himself and to offer targets. The artillery supports the advance of the infantry by annihilating everything that might hold up that advance."

The Germans, on the other hand, were somewhat over-impressed with statements that the Japanese and, later, the Bulgarians had worked forward their infantry by virtue of its fire as a principle means, paying little heed to the fire effect of the artillery.

Due to these notions, they started the war by precipitate advances of dense skirmish lines which moved out before the artillery had enough time to make the necessary reconnaissances. French reports give this form of attack the credit for producing heavy losses by rifle and machine gun fire; indeed, they attributed to the Germans the possession of more machine guns than they actually had.

Experience, however, soon showed the Germans that their method, while successful, was over-costly. They presently developed the following method; under cover of artillery fire alone, the infantry advanced in successive thin lines to a point about 800 yards from the enemy where they built up a firing line and began shooting; thereafter, they advanced in long rushes whenever they felt that their small arms fire had given them momentary superiority. While the artillery kept up the fight, it was not looked to, to effect the advance.

The Germans claim that, in 1866, they had realized that battle was an operation of great DISORDER and hence, they had taught their men to expect it and to act with initiative. Whether they succeeded is unknown, but certainly the idea is sound, though in our service only admitted by the utter disregard, we pay to the fact.

Both sides found that the complicated methods of fire control taught in peace failed in war; we still fail to realize this.

The truly remarkable examples of steadiness under adversity shown by each belligerent in turn during the kaleidoscopic campaign of 1914 demonstrates once more the steadying influence of habitual discipline upon shattered nerves and exhausted brains.

Also, as one writer puts it, "Untimely bravery may be a rank growth, but it shows a fruitful soil." Countless are the examples of where the "untimely BRAVERY" of one man staved off disaster or assured victory.

By November, 1914, the French issued orders that in open country march formations change into approach formations at from ten to twelve kilometers from the front.

Throughout this period of the war we find each nation first underestimating and then, by reaction, over-emphasizing some hostile weapon. This, the French, ignoring the machine gun, suffered heavily and at once ascribed to the weapon capabilities and numbers that it did not possess. The Germans, on the other hand, first made light of and then over-stressed the Seventy-Five. Similarly, they first laughed at and then shrank from the deadly rapid fire of the British infantry.

The following table, showing as it does not only the rise in the number of machine guns as the war progressed, but also the almost constant equality among the belligerents in this arm, is of interest:

NUMBER OF MACHINE GUNS PER DIVISION:

	1914	1918	
German;	24 heavy	108 heavy	144 light
French;	24 heavy	108 heavy	216 light
British;	24 heavy	64 heavy	192 light
American;		168 heavy	708 light

MIDDLE PHASE:

During 1915, 1916, and 1917, we find political, supply, and training influences combining together to produce a form of war similar to and as indecisive as that which flourished in 1700.

This futile phase was inaugurated in the late fall of 1914 when, due to the timid handling of Cavalry, it resulted in the establishment of a continuous line from the mountains to the sea.

The specialty of the case was further enhanced and the lessons liable to be drawn from it distorted by the fact that in this restricted area the road net was in the proportion of one mile of improved road to each 6/10th of a square mile, whereas elsewhere in the world, it is far lower. In New England and New York, for instance, we have a ratio of one mile of improved road to each one and 8/10th square miles, while for the continental United States, the ratio is one to sixteen.

The defensive methods varied with time and material. At first, reliance was placed in heavily occupied front lines, while small arms fire was supposed to either stop the assailant or else render him impotent to resist the impact of local counter attacks. Only the British used, whenever possible, reverse slope positions.

Fro the assault of these linear positions, reliance was at first placed in an artillery preparation of from 18 to 20 rounds per linear yard. The infantry assault was executed by a dense firing line, followed at about 100 yards by a line of company columns. Under this system, a division assaulted on a front of 1,500 meters and with very little depth. Due to trenches and the short space separating the combatants, the question of gaining fire superiority was relegated more and more to the artillery.

The theory that in artillery lay the road to victory inaugurated the battle of material which fount it's natural corollary in the increased complication in defensive works.

By September, 1915, an assault division wanted the backing of 40 light and 20 heavy guns per kilometer of front. Fire distribution by these weapons was generally as follows; 2/3 of the light guns played on the trenches, 1/3 cut wire while the heavy guns did counter battery work.

Shortly, the mania for guns reached the point where infantry relied on standing barrages for defense as well as for the attack. This had a very bad effect. As one writer says, "It caused the infantry to complete a cycle, 'from camp follower to gun chaser.'" As the fighting usually took place in the trenches, flat trajectory arms fell into disrepute except in the opening stages of a fight. Grenades and their advocates became rampant. I remember one lecturer at the staff college in Langres saying, "... in a trench raid, 1,900 grenades were used and two Germans were injured."

As the amount of artillery deemed necessary to permit an advance of grenadiers — they were no longer infantry — increased, the condition of the ground over which these ball players had to walk became worse. Moreover, the loads which men had to carry mounted (what with grenades, a rifle, gas mask, water, etc.) so that they were unable to move more than 1,000 meters or so, I personally heard a very high ranking British General tell General Pershing, in July of 1917, "This fact, coupled with the firm belief that only in shells lay salvation, produced the fad for limited objectives. When attacks on this theory were executed in the most approved style, they were a more of less bloodless progression up to the objective because, except for a few small groups holding the front line, the enemy had either left or else had been destroyed. When the objective was reached, the trouble started. The fire superiority gained had been as limited as the objective in that it had neither neutralized the enemy main gun positions nor destroyed his reserves. While the mighty clamor of thousands of guns roaring for a week or more tidings of the intended assault gave the defender time to collect ample reserves."

Another phase of war which had its birth at this time, and from which we are still suffering, was the idea that no one except the higher system of command posts and message centers was evolved. Operations were cut and dried and rehearsed to a wholly preposterous degree. There is an actual case of a replica of the position to be attacked having been constructed and over this scenic triumph were conducted all the subordinate leaders of an assault corps from corporal to lieutenant colonel; while sundry crossroads made of tape or bits of moss representing woods were pointed out to them with the solemn admonition that at "H-Plus 17 minutes, you will have your squad here."

It is true that by this time junior officers were inexperienced, but they are not so now and still we persist in our folly. Once recently at maneuvers, I saw a battalion of infantry stopped by a machine gun. Whereupon the major let go all holds and, forgetting that as advance guard for a brigade he should see to its uninterrupted progress, he established a command post complete with signs and typewriters. When this military masterpiece had been consummated, it was discovered that the enemy had been gone for an hour, so that the estimate of the situation which was all but ready probed abortive.

As has been mentioned, even these meticulous preparations failed to wholly remove the menace inherent in a few brave men, and these took a heavy toll of the attacker's infantry. To circumvent these people, the tank was devised in an attempt to procure movement through fire, since the protection of its armor multiplied the effectiveness of its armament; that is, they were initially used to bridge the gap between the lifting of the barrage and the arrival of the bayonet. In this mission they were successful whenever used in masses, but, on the other hand, the cratered ground hampered them and only at Cambrai and under Rallinson did they ever develop their full power.

On the other hand, it is wise to recall that much of their effectiveness resulted from their novelty, from the fear of the unknown which they excited. Moreover, the enemy tried to kill the crews rather than to smash the tracks.

The effectiveness of trenches against flat trajectory weapons not only produced the grenade and the howitzer, but also gave birth to that chemical shrapnel; gas. Before giving this weapon too high a place in future wars, we should recall that, round for round, it is less effective than shell until we reach very high concentrations, and that such concentrations can only be effected when static conditions give time to move munitions.

This consideration does not effect the use of gas from airplanes in future wars.

In the World War, the importance of airplanes rose rapidly as did their numbers. The following table compiled from German sources, while possibly biased, certainly is eloquent of the increasing use of planes:

Battle losses of planes in:

	1915	1918
Allies	31	913
German	7	107

Tactically, the planes were most effective in artillery adjustment and in the fighting of each other. They also reduced day movement of men and supplies. If a condition of absolute air control could be attained and held, the effect of planes would be much more noticeable. Barring such a condition, they have to spend much of their time fighting each other.

As early as December, 1916, the French began a departure from their system of uniform weight to attacks and to resort to concentration of strength against weakness. This was the forerunner of infiltration.

In concluding this phase, we may say that operations on the Western Front and in both Salonies and Gallipoli contain much of interest, to chemists, ordnance officers, mechanics, and psychologists, but very little of value to soldiers.

Operations during the same period in Palestine and Mesopotamia are of interest, primarily as indicating somewhat futile attempts to apply tactical methods which were in vogue in France to theaters of war where they were even less useful.

The World War provides a profound study in all forms of communication, but especially in the use of Motor Transport and of Railways.

Due to the fact that up until 1918, the Allies never attacked in unison, but always in rotation, the Central Powers had ample time to shift forces from place to place in the theater of war much in the same way as did General Lee on the battlefield at Antietam.

#### LAST PHASE:

When, in 1917, the collapse of Russian gave the Germans a unit superiority of from 25 to 30 divisions over the Allies, they had one last chance to win the war, provided that they could achieve victory before the rapidly arriving Americans could be brought into play.

Due to the special circumstances existing on the Western Front, to which attention has already been called, attacks by envelopment were impossible until a sufficient penetration had been effected to create a pair of artificial flanks.

In affecting this penetration, two methods were possible; either to copy the method used by Brusselorf against the Austrians, or of drawing reserves to a distant part of the line by feints; or else of the selection of a portion of the enemy's front promising a maximum tactical advantage, and by a violent drive there to annihilate the enemy's reserves as they came up.

The Germans selected the latter method, for the following reasons:

An Allied counter attack might spoil the effect of the feint, "A modern defensive battle is more costly than an attack." (Balck; Development of Tactics in the World War), and hence, the Allied losses would still decrease their disparity in numbers. Finally, Ludendorf believed that, "Tactics should have been placed above mere strategy. Without tactical success strategy could not be accomplished. Strategy which does not think of tactical success, is condemned at the very start to failure. Numerous examples of this were furnished by the attack of the Entent in the first three years of the war."



The German experiences on the offensive at Verdun and on the defensive elsewhere in the west had taught them that battles of material can hardly succeed, since by their nature they preclude surprise. On the other hand, they had learned, or better “re-learned”, in Russia certain principles of open warfare which Balck summarizes thusly; “Surprise is gained by short powerful artillery concentrations directed against a single point and in the rapid advancement of the infantry in cooperation with its auxiliary arms.” Clearly, there is nothing new in this. Surprise is the oldest element in combat. The short, sharp penetration, aided by surprise, gave temporary fire superiority which was exploited by rapid movement towards the enemy.

This fire superiority was later renewed whenever necessary by the combined use of accompanying artillery, infantry mortars, grenades, machine guns, and rifles.

It is very noteworthy, however, that the size of the units containing all means of offensive combat had been reduced for this style of warfare from a division to less than a regiment. A quotation from the German regulations on the subject of the use of artillery and what the infantry expected from it is of interest; “In large attacks for penetration, the following missions fall on the artillery:

1. Destruction and utilization of hostile artillery and trench mortars.
2. Utilization of hostile trenches and supporting positions.
3. Firing on reserve and rear communications, on observation and command posts, parks, balloons, transportation and munitions centers in rear beyond the objective of the attack.
4. Supporting the assault by a rolling barrage.
5. Accompanying the infantry assault with infantry guns and light artillery to break up local centers of resistance by direct and close shell fire.
6. Protecting the infantry after reaching the objective by a standing barrage.
7. Repulsing hostile counter attacks, and the distant approach of reserves.”

None the less, it is noteworthy that only under semi-static conditions can enough munitions be accumulated to permit this form of operation. For example, the Germans estimated that the artillery necessary for such an attack on a division's front, two kilometers long and 800 meters deep, demanded as a minimum, 52 batteries of artillery. While this was less than the 57 batteries per kilometer which the British thought necessary in 1917, it still assures the using of a stupendous quantity of ammunition. Four years of trench warfare and the casualties incident to them had caused other conditions unfavorable to an effective offensive.

“Battalions and companies were commanded by young officers (for the greater part, very young) who probably had possessed by then experiences in the field, but who still lacked those qualities which had formed the strength of our officers in peacetime.” He goes on to say that they were not thoroughly trained to meet all situations, were not indefatigable in the care of their men, nor were they always examples in danger or during hardship. (Balck – Development of Tactics in the World War, page 261).

The German method of executing their attacks were as follows:

The assault echelon followed the barrage as rapidly as possible and continued to move straight to the front until exhausted. Troops composing it were not permitted to make lateral attacks for the purpose of flanking positions which still resisted, because had they done so, they would have lost direction. What lateral attacking was necessary was to be carried out by support and reserve units. As has already been mentioned, the assault troops were provided with every form of

accompanying weapon, as well as with artillery. Similar methods were adopted by the Entente and the Americans. However, it is my personal belief from what I witnessed that among the Americans or French, at least there was still too much reliance place on artillery and not enough use made of accompanying guns and trench mortar, to insure that the infantry fought their way forward.

Defensively, the last phase was marked by a zone as opposed to lateral defensive. By occupying a delaying position from 6 to 8 kilometers deep, the defender forced the attacking artillery to displace forward while his infantry was fatigued and harassed, if not sopped by the resistance encountered in the delaying area. In defending the delaying area, there was a marked tendency to utilize reverse slopes and to employ flanking fire.

Due to the shortage of ammunition and the belief in their vitality, the Germans, who did most of the defending during the last phase, prohibited the use of standing barrages. On this subject Ludendorff says, "Barrage fire without any effect, seldom is unerring in it's detachment, is too thin, usually starts too late, requires a great deal of ammunition, and materially endangers the infantry in a mobility battle. Stationary barrages should in all cases be strictly prohibited in ordinary position warfare. Their place should be taken by a concentrated fire for annihilation."

With the British and Americans, tanks preceded the assault echelon and were usually successful in relieving the infantry of much of their difficulty in traversing the delaying area.

On the other hand, due to battle and mechanical casualties, it frequently happened that when the infantry reached the main battle position, there were no tanks left to help them. With the French, the tanks accompanied the supports and were only used to intervene during the advance through the delaying position when normal infantry methods failed. This method, while more costly to the infantry in the delaying area, was possibly better in the long run, as it insured the arrival of more tanks at the main line of resistance, where they were always badly needed.

To sum up, it may be said that the tactics of the World War began by utilizing fire superiority gained by the means then available to secure maneuver. When, due to political reasons, Germany adopted a defensive attitude in the west, the space and wire combined with artillery and machine guns, to afford a means of resistance too superior to those which the offensive could then apply.

1915, 1916, and 1917 were years spent in an armament race, during the course of which the pernicious influence of quick training specialists and inexperience officers resulted in so debasing the theory of war that leaders confused means with ends. In 1918, the war terminated with a semi-return to maneuver warfare, by the invariable method of fire prepared shock; but without the road and railroads of France and Germany, the tons of ammunition necessary for a 1918 attack could not have been provided and victory by that method would have died stillborn.

## SUCCESS IN WAR

By Major George S. Patton, Jr., Cavalry

Cavalry Journal  
January 1931

War is an art and as such is not susceptible of explanation by fixed formulae. Yet from the earliest time there has been an unending effort to subject its complex and emotional structure to dissection; to enunciate rules for its waging; to make tangible its intangibility. As well strive to isolate the soul by the dissection of the cadaver as to seek the essence of war by the analysis of its records. Yet, despite the impossibility of physically detecting the soul, its existence is proven by its intangible reflection in acts and thoughts.

Above armed hosts there hovers an impalpable something which on occasion so dominates the material as to induce victory under circumstances quite inexplicable. To understand this something we should seek it in a manner analogous to our search for the soul; and so seeking we shall perchance find it in the reflexes produced by the acts of the Great Captains.

But, whither shall we turn for knowledge of their very selves? Not in the musty tomes of voluminous reports or censored recollections wherein they strove to immortalize their achievements. Nor yet in the countless histories where lesser, wormish men have sought to snare their parted ghosts.

The great warriors were too busy and often too inapt to write contemporaneously of their exploits. What they later put on paper was colored by strivings for enhanced fame, or by political conditions then confronting them. War was an ebullition of their perished past. The violent simplicity in execution which procured them success, and enthralled the world, looked pale and uninspired on paper, so they seasoned it.

The race yearns to adore. Can it adore the simple or venerate the obvious? All mythology and folklore rise in indignant protest at the thought. The sun gave light; therefore he was not hot gas or a flame, but a God or a chariot. The "ignus fatuus" deluded men of nights. It was a spirit; nothing so simple as decomposition could serve the need.

So with the soldier, to pander to self love and racial urge he attributes to his acts profound thoughts which never existed. The white hot energy of youth, which saw in obstacles but inspirations and in the enemy but the gage to battle, becomes too complacent and retrospective with age. The result of mathematical calculation and metaphysical erudition; of knowledge he never had and plans he never made.

With the efforts of the historians the case is even worse. Those who write at the time are guilty of partisanship and hero worship. While those who write later are forced to accept contemporaneous myths and to view their subject through the roseate light which distance, be it that of time or space, sheds ever to deprive us of harsh truth. In peace the scholar flourishes, in war the soldier dies; so it comes about that we view our soldiers through the eyes of scholars and attribute to them scholarly virtues.

Seeking obvious reasons for the obscure, we analyze their conduct as told by historians and assign as reasons for their success apparent, trivial things. Disregarding wholly the personality of Frederick we attribute his victories to a tactical expedient, the oblique order of battle. Impotent to comprehend the character of Rome's generals, a great historian coins the striking phrase, "At this time the Roman legionary shortened his sword and gained an empire." Our research is further muddled by the fabled heroism of all former fighters. Like wine, accounts of valor mellow with age, until Achilles dead three thousand years stands peerless.

Yet, through the murk of fact and fable rises to our view this truth. The history of war is the history of warriors; few in number, mighty in influence. Alexander, not Macedonia, conquered the world. Scipio, not Rome, destroyed Carthage. Marlborough, not the Allies, defeated France. Cromwell, not the Roundheads, dethroned Charles.

Were this true only of warriors we might well exclaim, "Behold the work of the historian!" but it is equally the case in every phase of human endeavor. Music has it's myriad of musicians but only it's dozen masters. So with painting, sculpture, literature, medicine, or trade. Many are called, but few are chosen.

Nor can we concur wholly with the alluring stories in the advertising sections of our magazines which point the golden path of success to all and sundry who will follow some particular phase of home education they happen to advocate. "Knowledge is power," but only to a degree. It's possession per se will raise a man to mediocrity but not to distinction. In our opinion, indeed, the instruction obtained from such courses is of less moment to future success than is the ambition which prompted the study.

In considering these matters, we should remember that while there is much similarity there is also a vast difference between the successful soldier and the successful man in other professions. Success due to knowledge and personality is the measure of ability in each case; but to all save the soldier it has vital significance only to the individual and to a limited number of his associates. With the soldier, success or failure means infinitely more, as it must of necessity be measured not in terms of personal honor or affluence, but in the life, happiness, and honor of his men; his country. Hence, the search for that elusive secret of military success, soul, genius, personality; call it what you will; is of vital interest to us all.

As has been shown, history and biography are of but limited assistance and the situation is still further complicated by other circumstances which we shall now discuss. First, we must get an harmonious arrangement between two diametrically opposed views; namely, that there is "nothing new under the sun" and that there is "nothing old."

Referring to the first assumption, that of immutability, we refer to the tendency to consider the most recent past war as the last word, the sealed pattern of all future contests. For this theory we of the military profession are largely to blame. First, we realize, none better, that in the last war it was necessary to make many improvisations and to ply our trade with ill assorted tools. We then read our books and note with a thrill of regret that in the war next preceding our own experience; "Things ran with the precision of a well oiled machine," for so the mellowing influence of time has made it appear to our authors.

In our efforts to provide for the avoidance, in future, of the mistakes which we personally have encountered, and to insure to ourselves or to our successors the same mathematical ease of

operation of which we have read, we proceed to enunciate rules. In order to enunciate anything we must have a premise. The most obvious is the last war. Further, the impressions we gained there were the most vivid we have ever experienced; burned on the tablets of our memories by the blistering flash of exploding shell, etched on our souls by the incisive patter of machine gun bullets, our own experiences become the foundation of our thoughts and, all unconscious of personal bias, we base our conceptions of the future on our experience of the past.

Beyond question, personal knowledge is a fine thing; but unfortunately it is too intimate. When, for example, we recall a railroad accident, the picture that most vividly presents itself to us is the severed blue-gray hand of some child victim; not the misread signals which precipitated the tragedy. So with war experiences. The choking gas that strangled us sticks in our memory to the more or less complete exclusion of the important fact that it was the roads and consequent abundant mechanical transportation peculiar to western Europe which permitted the accumulation of enough gas shells to do the strangling.

Even when no personal experience exists, we are bound to be influenced by the most recent experience of others. Because in the Boer War the bayonet found no employment, we all but abandoned it, only to seize it again when the Russo-Japanese conflict re-demonstrated its value. Going back further, we might point to countless other instances of similar nature, as witness to the recurrent use and disuse of infantry and cavalry as the dominant arms according to the most recent "lesson" derived from the last war based invariably on special conditions, in no way bound to recur, yet always presumed as immutable.

So much for the conservatives; now for the optimists; the "nothing old" gentry. These are of several species, but first in order of importance come the specialists.

Due either to superabundant egotism and uncontrolled enthusiasm, or else to limited powers of observation of the activities of other arms, these people advocate in the most fluent and uncompromising manner the vast future potentialities of their own weapon. In the next war, so they say, all the enemy will be crushed, gassed, bombed, or otherwise speedily exterminated, depending for the method of his death upon the arm to which the person declaiming belongs. Their spectacular claims attract public attention. The appeal of their statements is further strengthened because they deal invariably in mechanical devices which intrigue the simple imagination, and because the novelty of their schemes and assertions has a strong news interest which insures their notice by the press. Earlier examples of this newspaper tendency to exploit the bizarre is instanced in the opening accounts of the Civil War where "masked batteries" and "black horse cavalry" seemed to infest the whole face of nature.

Both the standpatters and the progressives have reason of sorts, and as we have pointed out, we must seek to harmonize the divergent tendencies.

A British writer has said, "The characteristic of war is its constant change of characteristic," but as is ever the case with aphorisms his remark needs explanation. There is an incessant change of means, to attain the inevitable end, constantly going on; but we must take care not to let these inevitable sundry means, past or predicted, attain undue eminence in the perspective of our minds. Since the beginning there has been an unending cycle of them and for each its advocates have claimed adoption as the sole means of successful war. Yet, the records of all time show that the unchanging ends have been, are, and probably ever will be, the securing of predominating force, of the right sort, at the right place, at the right time.

In seeking a premise for the enunciation of rules for the employment of this predominating force, we must cull from the past of our experience or reading the more permanent characteristics, select our weapons and assign to them that importance which reason and the analogy of experience indicate that they will attain. Bearing in mind these considerations and the definition of predominant force, we shall resume our search for success in war.

No matter what the situation as to clarity of his mental perspective, the conscientious soldier approaches the solution of his problem more or less befuddled by phantoms of the past, and deluded by unfounded or unproved hopes for the future. So handicapped, he assumes the unwonted and labored posture of a student, and plans for perfection, so that when the next war comes that part of the machine for which he may be responsible shall instantly begin to function with a purr of perfect preparation.

In this scholarly avocation, soldiers of all important nations use at the present time what purports to be the best mode of instruction; the applicatory method. The characteristics of some concrete problem are first studied in the abstract and then tested by applying them, with assumed forces and situations, in solving analogous problems either on the terrain or on a map representation of it. This method not only familiarizes the student with all the tools and technicalities of his trade, but also develops the aptitude for reaching decisions and the self assurance derived from demonstrated achievement.

But, as always, there is a fly in the amber. High academic performance demands infinite intimate knowledge of details, and the qualities requisite to such attainments often inhibit bodies lacking in personality. Also, the striving for such knowledge often engenders the fallacious notion that capacity depends upon the power to acquire such details rather than upon the ability to apply them. Obsessed with this thought, students plunge in deeper and ever deeper, their exertions but enmeshing them the more until, like mired mastodons, they perish in a morass of knowledge where they first browsed for sustenance.

When the prying spade of the unbiased investigator has removed the muck of official reports of the World War, the skeletons of many such military mammoths will be discovered. Amid their mighty remains will lurk elusive the secret of German failure. Beyond question no soldier ever sought more diligently than the German for prewar perfection. They built and tested and adjusted their mighty machine and became so engrossed in it's visible perfection, in the accuracy of it's bearings and the compression of it's cylinders, that they neglected the battery. When the moment came, their masterpiece proved inefficient through the lack of divine afflatus, the soul of a leader. Truly in war, "Men are nothing, a man in everything."

Here we must deny that anything in our remarks is intended to imply belief in the existence of spontaneous untutored inspiration. With the single exception of the divinely inspired Joan of Arc, no such phenomenon has ever existed, and as we shall show, she was less of an exception than a coincidence. We require and must demand all possible thoughtful preparation and studious effort, so that in war our officers may be equal to their mighty trust; the safety of our country. Our purpose is not to discourage such preparation, but simply to call attention to certain defects in it's pursuit. To direct it not towards the glorification of the means, study; but to the end, victory.

In acquiring erudition we must live on, not in, our studies. We must guard against becoming so engrossed in the specific nature of the roots and bark of the trees of knowledge as to miss the

meaning and grandeur of the forests they compose. Our means of studying war have increased as much as have our tools for waging it, but it is an open question whether this increase in means has not perhaps obscured or obliterated one essential detail; namely, the necessity for personal leadership.

Hannibal, Caesar, Heraclius, Charlemagne, Richard, Gustavus, Turenne, Frederick, Napoleon, Grant, Lee, Hindenburg, Allenby, Foch, and Pershing were deeply imbued with the whole knowledge of war as practiced at their several epochs. But so were many of their defeated opponents; for as has been pointed out, the success in war lies not wholly in knowledge. It lurks invisible in that vitalizing spark, intangible, yet as evident as the lightning -- The Warrior Soul.

There is no better illustration of the potency of this vitalizing element than is portrayed in the story of the "Maid of Orleans." For more than ninety years prior to her advent, the armies of France had suffered almost continuous defeat at the hands of their British opponents. The reason for this state of things lay not in the inferiority of French valor, but in the reappearance of the foot soldier armed with the missile weapon (the long bow) as the temporary dominating influence on the battlefield. As a result of the recurrence of this tactical condition, France suffered almost continuous defeats, with the result that her people lost confidence, and developed an inferiority complex. Then came Joan, whose flaming faith in her heaven sent mission rekindled the national spirit. Yet, great as were her powers, it is idle to suppose that, all unschooled in war as she was, she could have directed unaided the energy she produced. Like the fire beneath the boiler, she produced the steam; and ready to her hand she found competent machinery for its utilization in the shape of those veteran soldiers, Dunois, La Hire, and Saint Railles. The happy coincidence of her ignorant enthusiasm and their uninspired intelligence produced the phenomenal series of victories which freed France.

We now shall seek to evaluate and place in their just ratio the three essentials to victory; Inspiration, Knowledge, and Force (mass).

Napoleon won many battles with numbers inferior to the enemy; he never lost a battle when he was numerically superior. In other words, even his transcendent ability was not equal, on every occasion, to the task of counterbalancing numerical inferiority. When he was confronted with the admittedly incapable Austrian generals of 1796 he destroyed armies; while later, particularly after 1805, his victories were far less overwhelming. So with Caesar. Against the Nervaes, he was a consuming flame; against Romans, a successful commander. Grant in the wilderness was as nothing compared to Grant at Donaldson or before Vicksburg. Here we have three soldiers of the highest type, both mentally and spiritually. By way of contrast we may note how the learned but uninspired Prussians of 1870 triumphed over the poorly led French, while in 1914 their equally learned and uninspired descendants were far less successful in the face of better opposition.

We may therefore postulate that no one element (soul, knowledge, or mass) is dominant; that a combination of any two of these factors give a strong presumption of success over an adversary who relies on one alone, while the three combined are practically invincible against combinations of any other two. Comparing our own resources as to mass with those of any possible opponent or group of opponents, we strike at least a balance. The demonstrated ability of our trained leaders in past wars shows that so far as education is concerned, our officers have no superiors and few equals. This being so, victory will fly to or desert our standards in exact proportion to the presence or absence, in our leaders, of the third attribute.

War is conflict; fighting is an elemental exposition of the age old effort to survive. It is the cold glitter of the attacker's eye, not the point of the questing bayonet, that breaks the line. It is the fierce determination of the driver to close with the enemy, not the mechanical perfection of the tank, what conquers the trench. It is the cataclysmic ecstasy of conflict in the flier, not the perfection of his machine gun, which drops the enemy in flaming ruin. Yet, volumes are devoted to armament; pages to inspiration.

Since the necessary limitations of map problems inhibit the student from considering the effects of hunger, emotion, personality, fatigue, leadership, and many other imponderable yet vital factors, he first neglects and then forgets them. Obsessed with admiration for the intelligence which history has ascribed to past leaders, he forgets the inseparable connection between plans, the flower of the intellect, and execution, the fruit of the soul. Hooker's plan at Chancellorsville was masterly, its execution cost him the battle. The converse was true at Marengo. The historian, through lack of experience and consequent appreciation of the inspirational qualities of generals, fails to stress them but he does emphasize their mental gifts, which, since he shares, he values. The student blindly follows, and hugging the notion of mentality, pictures armies of insensate pawns moving with the precision of machines and the rapidity of light, guided in their intricate and resistless evolutions over the battlefield by the cold effulgence of his emotionless cerebrations as transmitted to them by wire and radio through the inspiring medium of coded messages. He further assumes that superhuman intelligence will translate those somber sentences into words of fire which will electrify his chessmen into frenzied heroes who, heedless of danger, will dauntlessly translate the stillborn infants of his brain into deeds.

Was it so that Caesar rallied the Twelfth Legion? Could the trackless ether have conveyed to his soldiers the inspiration that Napoleon imparted by his ubiquitous presence when before Rivoli he rode five horses to death, "To see everything for himself?" Staff systems and mechanical communications are valuable, but not above and beyond them must be the commander; not as a disembodied brain linked to his men by lines of wire and waves of ether, but as a living presence, an all pervading visible personality. The unleavened bread of knowledge will sustain life, but it is dull fare unless leavened by the yeast of personality. Could seamanship and shooting have made the Bon Homme Richard prevail over the Serapis or have destroyed the French fleet in Abukar Bay, had Paul Jones and Horatio Nelson been other than they were? What intellectual ghost replete with stratagem could have inspired men as did these two, who in themselves have epitomized not only knowledge of war, but the spirit of battle? In defining the changeless characteristics of war we mentioned force, place, and time. In our calendar of warriors, Napoleon Bonaparte and Stonewall Jackson stand preeminent in their use of the last of these; time. Of the first, his soldiers boasted, "He wins battles more with our legs than with our bayonets," while Jackson's men proudly called themselves "Old Jack's foot cavalry."

Shrewd critics have assigned military success to all manner of things; tactics, shape of frontiers, speed, happily placed rivers, mountains or woods, intellectual ability, or the use of artillery. All in a measure true, but none vital. The secret lies in the inspiring spirit which lifted weary, footsore men out of themselves and made them march, forgetful of agony, as did Messena's division after Rivoli and Jackson's at Winchester. No words ever imagined could have produced such prodigies of endurance as did the sight of the boy general, ill, perched on his sweating horse, or of the stern puritan plodding ever before them on Little Sorrel. The ability to produce endurance is but an instance of that same martial soul which arouses in its followers that resistless emotion defined as "élan" the will to victory. However defined, it is akin to that almost cataleptic burst of physical and mental exuberance shown by the athlete when he breaks a record or plunges through the tacklers,



and by the author or artist in the creation of a masterpiece. The difference is that in the athlete or the artist the ebullition is auto-stimulated, while with an army it is the result of external impetus; leadership.

In considering war we must avoid that adoration of the material as exemplified by scientists who deny the existence of anything they cannot cut or weigh. In war tomorrow we shall be dealing with men subject to the same emotions as were the soldiers of Alexander; with men but little changed for better or worse from the starving, shoeless Frenchmen of the Italian Campaign; with men similar, save in their arms, to those whom the inspiring powers of a Greek or a Corsican changed at a breath to bands of heroes, all enduring and all capable.

No! History as written and read does not divulge the source of leadership. Hence, its study often induces us to forget its potency. As a mirror shows us not ourselves, but our reflection, so it is with the soul and with leadership; we know them but by the acts they inspire or the results they achieve. Like begets like; in the armies of the great we seek the reflection of themselves and we find Self Confidence, Enthusiasm, Abnegation of Self, Loyalty, and Courage.

Resolution, no matter how adamant, mated to knowledge, no matter how infinite, never beget such a progeny. Such offspring arises only from blood lines as elemental as themselves. The leader must be incarnate of them.

The suggestion of Nicodemus as to rebirth (John III, 3-6) is not the only means of producing such a leader. There are certainly born leaders, but the soldier may also overcome his natal defects by unremitting effort and practice. Self confidence of the right sort as differentiated from bumptious presumption based on ignorance, is the result of proven ability, the sense of conscious achievement. Its existence presupposes enthusiasm, for without this quality no one could endure the travail of acquiring self confidence. The enthusiasm which permits the toil and promises the achievement is simply an all absorbing preoccupation in the profession elected. Endurance, too, is linked with self confidence. Mentally it is the ability to subvert the means to the end, to hitch the wagon to a star and to attain it. Physically it presupposes sufficient enthusiasm to force on nature, no matter how reluctant, the obligation of constant bodily fitness through exercise. The expanding waistline means the contracting heart line; witness Napoleon at and after Jena. Abnegation of self seems perhaps incongruous when applied to such selfish persons as Frederick or Napoleon, but this is not the case. Self can be subordinated to self. The Corsican, leading his grenadiers at Lodi, subordinated the life of Bonaparte to the glory of Napoleon. Loyalty is frequently only considered as faithfulness from the bottom up. It has another and equally important application, that is from the top down. One of the most frequently noted characteristics of the great who remained great is unforgetfulness of and loyalty to their subordinates. It is this characteristic which binds with hoops of iron their juniors to them. A man who is truly and unselfishly loyal to his superiors is of necessity so to his juniors, and they to him.

Courage, moral and physical, is almost a synonym of all the foregoing traits. It fosters the resolution to combat and cherishes the ability to assume responsibility be it for successes or failures. No Bayard ever showed more of it than did Lee after Gettysburg.

But, as with the biblical candle, these traits are of no military value if concealed. A man of diffident manner will never inspire confidence. A cold reserve cannot beget enthusiasm and so with the others there must be an outward and visible sign of the inward and spiritual grace.

It then appears that the leader must be an actor, and such is the fact. But with him, as with his bewigged compeer, he is unconvincing unless he lives his part.

Can men then acquire and demonstrate these characteristics? The answer is, they have; they can. For, "As a man thinketh, so is he." The fixed determination to acquire the warrior soul, and having acquired it, the determination to either conquer or perish with honor, is the secret of success in war.

*This article was originally titled **The Secret of Victory**. Approximately two pages of text were edited from the original for publication in **The Cavalry Journal**. — Editor*

HEADQUARTERS  
THIRD UNITED STATES ARMY

APO 403  
U.S. ARMY

15 April 1944

AG 353 Armd Comd

Subject: Tactical Use of Separate Tank Battalions.  
To: Corps, Divisions, Tank Group, and Tank Battalion Commanders.

1. Owing to a slavish adherence to the precept that, "Tanks should be used in mass," we are not gaining the full advantage from the separate tank battalions.
2. There are many occasions when terrain precludes the use of even so limited a "Mass" as a tank battalion but where smaller groups down even to the tank platoon can be used, and, in order to secure prompt and economical victory, they must be used.
3. In this Army we will try to keep at least one separate tank battalion permanently attached to each infantry division. This will permit the division commander to attach one medium tank company to each infantry regiment and still retain Battalion Headquarters, a light company, and possibly a medium tank company as a mobile reserve to exploit a success or to intervene against a counterattack.
4. The technique of a prepared general action, where an infantry division attacks in conjunction with one or more tank battalions for the purpose of executing a breakthrough, is too complicated to be treated in a memorandum and must be arranged on the ground at the time.
5. There are two aspects to the problem of using small groups of tanks for the support of infantry battalion operations. The first problem is to see that the tanks are available. It is obvious that any weapon which is not actively engaged in killing Germans is not doing its duty. Battles in the general case are simply an agglomeration of numerous small actions and practically never develop according to preconceived notions. Therefore, our killing weapons must be as close as possible to the fighting zone.
6. The tanks attached to an infantry battalion are under the command of the infantry battalion commander. Aggressive leadership on the part of the infantry battalion commander and of the tank commander, together with an intelligent utilization of the ground, of smoke, and of darkness, will always insure that some tanks are within immediate supporting distance of the advancing infantry.
7. When tanks are to support infantry, the infantry soldiers must know it in advance so that they will not mistake our tanks for those of the enemy.
8. When infantry is moving forward under circumstances that expose one of its flanks, the presence of a few tanks, particularly at night, on the exposed side is very encouraging and will result in a more rapid progression. In this case it is particularly important that the men know that the tanks will be there.

9. The next point to consider is how the tanks will be utilized. A good rule for the determination of whether tanks or infantry will lead in an attack is to have the infantry lead against emplaced and known antitank guns, large antitank minefields, and terrestrial obstacles such as bridges and defiles.

10. The tank leads against scattered minefields or minefields of the new so-called "Boot" type mines, against normal artillery and infantry positions, and against any type of counterattack.

11. When the infantry leads, the tanks must endeavor to keep within not more than 300 yards of the leading infantry. Under such circumstances, foot reconnaissance by tank crews will permit them to occupy defiled positions from which they can give direct fire support to the infantry, either with their guns or with their machine guns; they must be prepared to take advantage of any break that occurs, particularly to ruthlessly pursue hostile infantry if they attempt to withdraw. However, in such pursuits, and in fact under all circumstances, tanks should keep out of villages, where they are at a tremendous disadvantage and cannot utilize their power. Block houses and strong points without antitank guns are duck soup for tanks.

12. It should be remembered that in moving forward behind infantry tanks do not of necessity move over the same ground, because by utilizing their superior speed they can make detours where they are defiled and eventually regain their distance of not to exceed 300 yards behind the infantry.

13. When the tanks lead, the infantry must be within 75 to 100 yards behind them and be employing marching fire. In such an attack, time fire by artillery should precede the tanks by a hundred yards and have the burst about 25 feet in the air; the fragments from these bursts do not affect the tanks. The enemy observation points and gun positions should be smoked by artillery or by the fire of 4.2 mortars, which by using white phosphorus are particularly effective in supporting a tank attack.

14. The tanks must not run away from the infantry but must wait behind ridges until the infantry can close again to a distance of not exceeding 75 to 100 yards.

15. Tanks can and must attack at night. Such attacks must be preceded by meticulous day reconnaissance, must be against clearly defined, limited objectives, and all phases of the fire support and infantry action must be coordinated and rehearsed either through the use of sand tables or, if time permits, through actual maneuvers over similar terrain.

16. When a position is taken, either by day or night, the tanks will seek available cover in the immediate vicinity of the captured position, preferably where they can readily intervene on probable avenues of enemy counterattack. The sight of tanks hurrying to the rear after an attack is discouraging to the infantry and may demoralize it.

17. Tanks acting in conjunction with infantry will attack hostile tanks, regardless of the numerical superiority of the latter. If these enemy tanks are distant, our tanks will use HE against their tracks. If he is close, they will use armor piercing projectiles against the body of the tanks. Should the first round of AP miss, they will immediately fire several rounds of white phosphorus short and maneuver for a new position from which they can fire on the tank when he emerges from the smoke.

18. When light tanks attack medium tanks, they should use the minimum range, obtaining this through surprise and by concealment. At least two light tanks, and preferably a platoon, should attack each medium tank. At ranges under 400 yards such attacks are always successful.

19. Finally, always remember that the skillful commander uses the means at hand, all weapons, for the accomplishment of the end sought, the destruction of Germans.

20. The foregoing notes are based largely on the advice of Major General T.H. Middleton who has had great success in the use of tanks and infantry in the manner above described.

A handwritten signature in black ink, reading "G S Patton, Jr." with a stylized flourish at the end.

G.S. Patton, Jr. Lt. Gen.,  
U.S. Army,  
Commanding.

## TANKS IN FUTURE WARS

By Major George S. Patton, Jr. Cavalry

Cavalry Journal  
May 1920

In view of the prevalent opinion in America that soldiers are, of all persons, the least capable of discussing military matters and their years of special training are as nothing compared to the innate military knowledge of lawyers, doctors, and preachers, I am probably guilty of a great heresy in daring to discuss tanks from the viewpoint of a tank officer.

I am emboldened to make the attempt, however, not from a bigoted belief in the infallibility of my opinions, but rather in the hope that others will assail my views and that the discussion thus engendered will in a measure remove the tanks from the position of innocuous desuetude to which they appear to have been relegated by the general public.

The specific reasons for the present paper are that, during the time which has elapsed since November, 1918, I have heard not a few experienced officers "pooh pooh" the idea that tanks will ever be used again, or that, if used, they will have any material effect.

Admitting that my intimate relation with tanks may perhaps cause me to be sanguine as to their future, it still appears to me that to utterly disregard them is a very serious error.

This apparent disregard for means of cooperating with or combating against tanks seems particularly reprehensible in respect to infantry tactics. The infantry are peculiarly susceptible to the attack of tanks and are perfectly impotent to withstand them, except in so far as they are assisted by the accompanying gun. The discovery of other means for combating tanks appears then to be vital to the infantry and in view of the improved tank which we shall discuss, to the cavalry also.

Artillery, while less likely to suffer from tanks, is equally interested in their development because artillery is the weapon most dangerous to tanks, hence the best adapted to combating them.

I have neither the ability nor the desire to point out, to the arms above mentioned, tactical improvements designed to assist or combat tanks. My purpose is simply to call their attention to what appears to be a lack of effort in that direction, to show some of the causes which have led to this lassitude, and to suggest, in a very sketchy manner, certain tactical uses to which tanks will be set in future wars.

Observation and conversation lead me to the belief that the lack of interest in the future employment of tanks is due primarily to the following.

Comparatively few American units operated with tanks. The tank of 1918, a war production, had many grave mechanical defects. Trench warfare, the necessities of which caused the invention and construction of the tank, is, nevertheless, peculiarly ill adapted to tank combat. This, while apparently contradictory, is, nevertheless, absolutely true. The only great tank successes, with the exception of Cambrai, were after July, 1918, when trench warfare was practically extinct.

Further, the great mass of people are totally unaware of the great improvements made, and being made, in the tank. Only those of us who doctored and nursed the grotesque war babies of 1918 through innumerable inherent ills of premature birth know how bad they really were, and by virtue of that same intimate association, are capable of judging how much better they are now and how surely they will continue to improve.

To the casual observer the tank of 1918 is the last word. It is the tank, a feeble, blind, lumbering affair, "half devil and half child." He forgets that this machine, defective as it was, was never stopped unaided by one of the best infantries ever developed, and his frame of mind is identical with that which caused the astute military critic of the early sixteenth century, upon viewing Mons Megg, to declare, "This is a cannon. It is too clumsy. Therefore, all cannons are, and will be useless."

But to those of us who know what has been, is, and will be, the tank of the near future looms as much superior to the tank of yesterday as the "75" to the Pierriers of Queen Mary's day.

To become more specific, in several countries tanks now exist which are capable of speeds across country varying from twelve to fifteen miles per hour, and on the road, up to twenty miles per hour. They are impervious to small arms, bullets, and shell fragments. They can cross trenches up to twelve feet in width. They have fine interior visibility and all around fire from both cannon and machine gun, and finally, they have a radius of action of more than two hundred miles, without resupply of any sort. Such machines exist, and others will surpass them. It is futile to ignore the dreadful killing capacity of such arms.

There is still another disadvantage under which the tanks, in common with all other arms, are laboring; namely, that arising from unimaginative conceptions as to future wars.

Too many people vainly fancy that future unpleasantness will follow as sealed patterns of the World War (with trenches) barrages, and plasticine maps and with air photographs so accurate that the latest activities of some careless rabbit are easily discernible. Wars of preparations, concentrations and chocolates; of air raids, welfare workers, and "Big Berthas." Above all, of wars with endless entrenchments and flankless armies. They forget that not in Asia, Africa, or America can such a war be staged, because all of the above luxuries depend upon two things. First, roads, hundreds of good

metalled roads to carry the limitless supplies. Second, fronts short enough to be continuously occupied, and "get-atable" enough to allow for the feeding of the garrison.

In the continents just mentioned, the scanty network of inferior roads precludes the first, and their vast size prevents the second of the above essentials.

Assuming, first, that we enter another war on the now familiar European terrain, the improved tank, using tactics already proven, is of undoubted tactical value, but let us pass this and allow our minds to survey possible theaters of operation in the vast continents of the "A's." Here we are confronted with interesting and, to the student, familiar situations.

Large areas, occupied by armies of reduced size, or at least in less concentrated masses, clinging like bulbous growths to some railroad, river, or partially improved highway from which they draw sustenance. Beyond these we see an antennae of smaller units; brigades and regiments of infantry,

regiments and squadrons of cavalry supplied from the main body, by truck or tractor supply columns, and trembling lest Napoleon's "Fourth Element" make inoperative their precarious means of existence.

Along the avenue of supply from the opposite direction comes a similar monster, feeling and poking and groping, until at last contact is made, and the day of battle has arrived. But will it be a battle after the dear departed pattern of the World War? Will the inadequate and attenuated line of supply be able to bear the strain of transporting the millions of pounds of artillery, trench mortar, and machine gun ammunition necessary for the methodical preparations, the area shoots, and the various barrages? Hardly. In such regions the fragile line of rails, water, or mud, the placements of the army, harassed by aerial bombardment, cavalry raids and the vicissitudes of the weather, will prove inadequate to the double task of feeding the maw of the guns and bellies of the troops. A choice must inevitably be made, and the bellies will win. The ammunition will be limited to that in the limbers of the batteries, the carts of the machine guns and the combat wagons.

Let us now continue our battle, assuming that both generals being hardy men, finesse is abandoned and they come to grips, head on, with the usual and ever surprising envelopment to a flank.

One set of infantry must advance to such a place that they may threaten to operate on their adversaries with the bayonet. How shall they do it? Lack of guns and ammunition prevents the sheltering and comforting barrage. The artillery is firing at the hostile guns or helping, when possible, against some specially noxious or tempting infantry resistance. The infantry must advance under a fire superiority gained by their own efforts; but as the first of the assault echelons appear, the "Tock Tock Tock" of the defenders' machine guns come from all sides, to be instantly combated by the equally concealed cackling of the aggressors' guns. And as the lines draw nearer, the droning roar of the rifle fire is enhanced by the high staccato bursts of the automatic rifles and the occasional blub of the accompanying guns. The attacker has the élan and the number; the defender, countless machine guns, hidden on reverse slopes and undisturbed by the barrage of former days; the struggle will be long and very slow.

What if, at this moment, either side loosed tanks? Long, low, swift, invulnerable tanks, against whose armored hulls machine gun and rifle bullets chatter as harmlessly as hail on a brick yard?

Some will answer, "The infantry accompanying gun." Yes, to a degree; but to those who have fired at the moving targets of the 1911 small arms course, the outcome is not too cheering.

Speaking more generally, it appears that there is strong presumption that the possible loci of some, possibly most future operations will be in continents which will only admit of the use of the various arms in something very closely approximating their pre-World War proportions. Under these circumstances, battles will be gained by rifle, automatic rifle, and machine gun fire, unaided by artillery to any marked degree, so far as barrage or annihilating fire is concerned. These small arms weapons will be pitted against each other over country but partially known from prewar maps, ground and aerial reconnaissance, occasionally aided by air photographs. The careful preparation of large, accurate maps and the study of mosaics of air photographs will be practically impossible. Guns will be located, not by sound ranging and flash spotting, but by the casualties caused by their unsuspected shots. As a result of this situation, surprise and uncertainty will prevail to a degree unknown in the World War.



To guard infantry and supply columns from the unsupported raids of fast tanks, accompanying guns will have to be distributed at short distances along columns, reconnaissance will have to be wide, and complete new tactics will have to be evolved and the tanks will be necessary.

What will prevent a few well placed automatic rifles from holding up and causing the deployment and subsequent delay of advance guards, except a tank from support, to nose out and remove the trouble?

What will prevent flank patrols or detachments on the extremity of deployed lines from being driven in, and the lines themselves crumpled up by tanks, but by other tanks?

What answers the age old demand for shock troops, who can quickly and inexpensively close on the enemy and hold him for envelopment and destruction by the other troops, but tanks?

What will prevent infantry detachments, with armed machine guns and automatic rifles, from rendering futile efforts of raiding cavalry, but swift tanks, capable of accompanying that cavalry?

What better adjunct to a rear guard than a tank holding the reverse slope of some defile until the distant artillery is brought up to dislodge it, and then being forced to witness the safe withdrawal of the tank at eighteen miles an hour and covered in an impenetrable pall of it's own smoke screen?

What more ideal force than tanks and cavalry to cut off and either hold or delay a retreating enemy until the infantry and artillery arrive to finish the work?

The preceding crudely sketched incidents are but a few of the possible situations, and the crux of each is the tank and new tactical means to combat it.

There is no belief on the part of any tank officer that the tank has replaced in the least degree any one of the existing arms. It is distinctly a new instrument added to the full chorus of the military band. But having appeared, the new pieces, composed by future generals, will demand the peculiar tone of the tank instrument for the proper rendition of their compositions.

The tank is new and for the fulfillment of it's destiny it must remain independent. Not desiring nor attempting to supplant infantry, cavalry, or artillery, it has no appetite to be absorbed by any of them.

Our A.E.F. colors; Red, Yellow, and Blue, were happily chosen and are truly significant. We have the cannon of the artillery (red for firepower), the machine gun of the infantry (blue for ground holding ability), and the crushing power and mobility of the cavalry horse (yellow for lightning speed). As an independent corps, we may assist any one of the major arms as directed. Absorbed by any one of them, we become the step child of that arm and the incompetent assistant of either of the others.

The tank officer must know by theory and practice the tactics of the other arms. Further, he must know his own diversified potentialities so thoroughly that in the prompt movements and uncertainty of battles in a war of movements he may follow instantly and correctly the lead given to him by the arm with which he is operating. Above all he must know tanks.

The great expense of tanks precludes the possibility of their being equally distributed to all units of the other arms. Hence their hyphenation with any such arm will lead to an unequal distribution. The corps should be kept, as was the case among all armies of the World War, a separate entity and be assigned by higher authority to that unit where their presence will add the most to the general good.

Like the air service they are destined for a separate existence.

The tank corps grafted onto infantry, cavalry, artillery, or engineers will be like the third leg of a duck; worthless for control, and for combat impotent.

## TANKS, PAST AND FUTURE

By Major George S. Patton, Jr., Cavalry

*A lecture to be given to the officers of the 11th Field Artillery Brigade at Schofield Barracks on Monday, February 27th, 1928*

### INTRODUCTION

Fourteen years ago while holding the exalted rank of trust and confidence then called a "Goddamned shavetail," it fell to my lot to devise and write the regulations for the use of the Cavalry Saber.

The first draft of this momentous document was perfectly clear to the author and to him alone. I mention this fact by way of extenuation for any lack of lucidity my remarks may contain because one who knows much of a subject often finds it difficult to explain it clearly to those who know little.

### ANCIENT TANKS

So far as known, it was Liarte's Godlike son, Ulysses who first conceived, in the notion of his famous horse, the germ idea of the present tank.

The movable towers used by Alexander against Tyre in 333 B.C. are another early manifestation of the same idea which in sundry forms and under such suggestive names as the Sow, the Boar, and the Cat continued to be employed by ancient and medieval soldiers down to the time of the development of a reasonably effective artillery.

It is true that these devices were intended solely for siege warfare, but in effect, so was the first version of the present tank.

Things, however, were progressing and we find in the British Museum pictures with the date of 1456 showing a pupal form of tank masquerading under the name of "Cart of War." They look very much like our present escort wagon but with the side boards reaching to six inches of the ground and with the wheel inside. The well known prairie schooner hood is replaced in substance, though not in form, by a wooden frame covered with green hides through the front and sides of which are openings to permit musketry fire. The horses which propelled this vehicle were inside with a platform above their heads to support the crew. The picture shows several of these carts in the midst of a battalion of halberdiers.

So far as I know, this machine is the earliest form in which the light or open warfare tank appears. I have been unable to find any evidence that it was ever used in battle.

In 1472, a similar engine, but this time driven by windmills operating wooden gears, is described in Italy.

Slightly over a hundred years later, one Simon Stevens depicts a land ship with masts, sails, and guns mounted on wheels which, had it worked, would have been quite a formidable tank.

Finally, in the unfinished notes of Leonardo da Vinci, we find a description of a land ship or battle car similar in general outline to the cart of war, but propelled by an engine, a description of which important auxiliary, Leonardo graciously omits.

In respect to this disregard for trifles, the great Italian had later copyists. While in France in 1918, I was directed to report on the military value of a machine going by the euphonious name of the 'Moving Fort and Trench Destroyer'. An elaborate set of blue prints accompanied the description of this horrid instrument. These prints depicted a caterpillar propelled box of generous proportions covered with two inch armor and bearing in it's bosom six "75s," twenty machine guns and a flame thrower. In the midst was a rectangular box six by three by two feet with the pathetic epitaph, "Engine not yet devised." I do not know whether atom bursting was known at that date, but if it was, I feel sure that an engine actuated by that sort of energy must have been intended as no other form of power occupying so small a space could have propelled the two hundred ton estimated weight of the fort.

In my endorsement I stated that the lack of an engine was considered a defect and further pointed out that while it would unquestionably crush trenches, it would just as surely squash a considerable part of France in it's journey to the front.

It is also credibly reported, and indeed I have seen pictures to substantiate the story, that a steam tank called the "America," was built in Boston in 1917. This charming home companion had a boiler operating at 200 pounds pressure nestling in the middle of the fighting compartment and to make the assurance of death by boiling doubly sure there was a tank of liquid fire ensconced in the front. Fortunately, the designer made the thing so wide that no railway could transport it and thus condemned it to innocuous desuetude.

#### ADVENT OF TANKS IN THE WORLD WAR

In 1915 the pendulum of superiority which through 4000 years of military history has constantly oscillated between the offensive and the defensive, seemed to have reached the limit of it's arc in favor of the defense. Again, the wall, now inverted into a trench with the moat replaced by wire, was definitely superior to the offensive powers of the attacker, augmented though they were, by ever increasing numbers of guns and weight of metal. Because the length of time necessary to batter a hole, coupled with the mighty alarm sounded for weeks by thousands of guns, gave ample time and definite warning of the approaching assault, so that reserves could be assembled and emplaced to check and evict the attacker. Moreover, the cataclysmic nature of such bombardments so disrupted the face of nature that even discounting the hostile counter attacks, the infantry were physically unable to traverse the swamps and shell holes they encountered to a sufficient depth to reach the enemy gun positions. The result was that the principle losses of time occurred when the exhausted assaulting infantry attempted to consolidate their forces and were pulverized by the undisturbed guns of the defender.

To cope with this situation it behooved the inventive genius of the time to devise some new means of restoring the initiative to the assailant. The mind of man following the age old track of "cause to effect" re-evolved the tank.

In fact, that fecund mother 'Necessity' bore twins and produced identical yet independent inventions of the tank in both England and France. For while the idea was probably first mooted in

England in October, 1914, France never heard of it and in December, 1915, General Estienne advanced a similar proposition.

While the results were identical, the actuating principles of the two inventions were dissimilar.

The French notion was almost wholly classical in that they proposed to construct caterpillar propelled steel boxes in which they intended to transport infantry across "no man's land" and dump them in the midst of the discomfited enemy. With this objective in view they began the construction of 1500 machines and planned to employ them simultaneously in surprise attacks on three different sectors. Before they had constructed more than a few hundred such tanks their plans were upset by the British who on September 15, 1916, completely spilled the beans by springing their first tank attack on the Somme.

Since surprise was now out of the question, the French had to alter their moving vans into fighting machines. This they did but the resulting compromise was very poor so far as the Schnadar type tank was concerned.

The British idea of the tank was different. From the first they thought of it as a purely fighting machine; a sort of cross between the skirmish line and the barrage. As the tank became more able, the first part of this dual personality gained in importance in their eyes until in 1918 we find in a B.E.F. regulation, speaking of infantry following tanks, this remarkable paragraph; "Infantry should be organized in section columns of file. These can be readily formed into line should it become necessary for them to use their rifles."

Before proceeding to a more critical examination of the tactical use of tanks in the World War, it is well to pause here and to point out the baleful effects of lack of preparation with its attendant improvisation. Due to the unavoidable lag between the conception of each type of tank and the moment of its debut in action, the machines always found themselves antediluvian at birth.

Thus the Schnader carrying tank designed in December, 1915, while perfectly capable of traversing the small craters, narrow trenches, and limited wire of that date was in the fall of 1916, when it actually appeared, almost incapable of unaided movement over the enlarged craters and complicated trench systems which had appeared in the interim.

The same thing is true of the several successive types of British tanks. The Mark IV Star and Mark V tanks designed for crossing trenches enlarged up to ten feet found in the Hindenburg Line at Cambrai trenches twelve feet wide which they were only able to surmount by the use of special fascines. Finally, the monster Liberty

Tank designed to cross this very line failed to materialize until 1919 when the line itself was already a memory.

As I have already said, the original idea of the tank was that of a siege engine designed to aid in overcoming the rigid front line defenses in being at its birth. In fulfilling this mission its functions were conceived to be the following;

1. To cut wire.
2. To bridge the gap between the lifting of the barrage and the arrival of the bomb and bayonet.
3. To help mop up.

#### 4. To repel counter attacks.

However, the invariable, and in this case justifiable, conservatism of the higher command rendered them skeptical of the ability of the infant tanks to perform unaided the several functions I have just enumerated. Therefore in all the battles of 1916 and early 1917 the tanks were employed in conjunction with the prolonged artillery preparation of the then accepted method.

This fact militated against the usefulness of the tanks in two important particulars. First, it precluded all possibility of surprise and second, it so increased the difficulty of movement by the creation of huge shell holes and swamps that it was more effective in stopping the progression of the tanks than was the resistance of the enemy.

Finally, in November, 1917, the small success achieved by the blasting methods of attack and the constant clamor of the Tank Corps decided Lord Haig to give them a trial, so at Cambrai on the 20th of that month, a surprise tank attack was launched.

The troops engaged in this battle consisted of two corps of three infantry divisions each. The tank corps of nine battalions, comprising 378 fighting tanks, 98 administrative machines, a corps of Cavalry, and 1,000 guns. In the initial attack on a front of 13,000 yards a penetration of 10,000 yards was effected in the space of twelve hours. At the third battle of Ypres a similar penetration took three months. At Cambrai 8000 prisoners and 100 guns were captured. The prisoners captured were nearly double the number of casualties suffered by the two infantry corps on the first day of the battle. It is interesting to note that the total strength of the tank corps amounted to 4,000 men or about that of an infantry brigade and that these few men replaced the artillery wire cutting and rendered unnecessary the old preliminary bombardment.

From a tank point of view the first phase of this battle was eminently successful and fully justified the claims made by the corps. With the subsequent anticlimax we are not concerned but since its beginning was the apogee of tank attacks against rigid defenses, I will very briefly trace the more salient features of the initial attack.

Colonel J. F. C. Fuller, Chief of Staff of the Tank Corps, is my authority for the following description.

The success of the operation depended on three factors; first, complete surprise which was effected by dispensing with the preliminary bombardment; second, on the ability of the tanks to cross the twelve foot trenches of the Hindenburg Line (this being insured by the use of huge fascines of brushwood four and a half feet in diameter and ten feet long bound with chains); third, on the infantry having sufficient confidence in the tanks to follow them (careful previous instruction insuring this result).

The tactics employed had for their objective the penetration of four systems of defenses in a few hours. In carrying out this project, each objective, that is defensive system, was divided into carefully delineated tank section attack areas, and a separate echelon of tanks was allotted to each objective. Each tank section consisted of three tanks, one advance guard tank and two main body or infantry tanks. The duty of the advance guard tank was to keep down the enemy fire and protect the main body tanks as they led their infantry through the enemy wire and over his trenches. The infantry followed in file behind the main body tanks. It was organized into three forces; trench cleaners to operate with the tanks; trench stoppers to block the trenches at various points; and

trench supports to garrison the captured trenches and form advance guards for the next echelon of tanks and infantry to pass through.

The mechanism of the attack was as follows; The advance guard tank went straight forward through the enemy wire and, turning to the left, without crossing the trench used it's right broadside against the occupants. The two infantry tanks made for the same spot; the left hand one crossing the wire, approached the trench and cast it's fascine, then crossed over the fascine and, turning to the left, worked down the fire trench and around it's allotted objective; the right hand infantry tank crossed the fascine dropped by the preceding one, made for the enemy support trench, cast it's fascine, crossed over and turning to the left repeated the actions of it's predecessor. Meanwhile, the advance guard tank had returned, crossed over the fascines of the two infantry tanks, and moved forward. When the two infantry tanks met, they formed up behind the advance guard tank and awaited orders.

In learning to work quickly in single file and to form line from this formation a simple platoon drill was devised. It is curious to remark that this drill was based on a very similar one described by XENOPHON and attributed by him to King Cyrus, 500 B.C.

This brief account clearly shows the rigidity and set piece nature of the attack. But, despite or perhaps because of it's success, a repetition of Cambrai was foredoomed. Even at Cambrai the rigid system of defense was not used in it's entirety while after that battle certain conditions arose which caused it to be wholly replaced by fluid defense in depth. Of these factors the more important were the dwindling manpower of the combatants, which made it inexpedient to maintain the integrity of a few acres of ground at the cost of several hundred casualties and second the trench mortar which forced the abandonment of the front lines since after a deluge of the venomous spittle of these belching toads front lines no longer existed.

## PERSONAL INCIDENTS

Before preceding to an account of the birth and organization of the American Tank Corps, it may be interesting to touch in lighter vein on some personal incidents connected with it's beginning.

Since the first circumstance I shall relate is highly confidential, I shall preface my remarks by the request that you will never take the information I divulge in to the front lines of the War Department.

One hot July day in 1917 I was drowsing over the desk of the Concierge at G.H.Q. in Paris (at that time I was holding this high office on the staff). Suddenly my slumbers were disturbed by an orderly who told me to report to the Operations Office. There a certain Major General, present in the Islands, but who shall be nameless, introduced me to a French Officer and directed me to listen to his story and report my conclusions. This Frenchman was a tank enthusiast who regaled me for several hours with lurid tales of the value of his pet hobby as a certain means of winning the war. In the report I submitted to the Major General, then a Lieutenant Colonel, I said, couching my remarks in the euphemistic jargon appropriate to official correspondence, that the Frenchman was crazy and the tank not worth a damn. On the 17th of November following, I was detailed as the first officer in the Tank Corps.

My debut into that stellar position perhaps deserves comment. One day while I was in the hospital at Chaumont recovering from an attack of excessive fish eating, which the rigors of food

conservation had forced upon me, an officer who had once been my troop commander came to my fevered couch and said, "Patton, we want to start a Tank School. To get anything out of tanks one must be reckless and take risks. I think you are the sort of damned fool who will do it." I accepted the offer and the next day received an order to proceed to Langres to organize and establish the first American Tank Center. To assist me in this momentous task the order further provided that my striker, two horses, and an automobile should accompany me. Great oaks from little acorns grow. In March, 1919, there were some four hundred tanks and five thousand men at that center.

I shall never forget the tragedy of the first Tank Corps casualty. One day in 1918, I entered my office in the manure perfumed town of Burg to find the Mayor of the place awaiting me. Before I could get off my cap he rushed up and seizing both my hands exclaimed, "What a misfortune! What a horror! You should have let our bleeding hearts share it with your afflicted souls."

The first thought which flashed on my mind was that some case of rape or arson had occurred. Still for the honor of America I felt that I must be resolute so I said, "Monsieur le Mayor, we Yankees are a brave race, but reserved." I then proceeded to pump the Mayor and by the use of two quartermaster cigars elicited the information that he had just discovered the newly made grave of a dead soldier. I still felt doubtful but consented to go and to weep with him on the tomb of the deceased. We went and soon came to a freshly tamped mound some seven feet long with a very rude wooden cross at one end and there at last discovering name of the dead hero, we clasped hands in mutual sorrow over the last resting place of "Abandoned Rear." Mort pour La Patrio.

#### THE AMERICAN TANK CORPS IN FRANCE

Shortly after the school started it became apparent that the British tactics of Cambrai were no longer applicable. In the first place we rightly contended that since tanks were a supporting arm they should conform to the normal formations of infantry and not demand that the infantry should conform to theirs.

Secondly, as already pointed out, we saw that rigid front lines no longer existed; and thirdly, we at Burg were only interested in the French Renault Tank, which due to its small size was tactically quite dissimilar to the British Mark IV and Mark V.

An investigation of the French tactics also failed to appeal. The method they advocated placed the tanks behind the infantry reserve battalions in which position they followed placidly along until the necessity for their intervention arose.

In theory this was alright, but in practice it was demonstrated that a period of from one to two hours often elapsed between the need for the employment of the tanks and the time of their arrival. In other words the system did not "fill the unforgiving minute with sixty seconds worth of distance run." In justice to the French it must be said that their tactics were predicated on small operations of, perhaps a division, where the time lost is less vital than it is in the case of larger forces.

Under the circumstances it seemed best to devise a system of our own. This we did and while it was far from perfect, it worked.



The method we evolved placed two companies of each Tank Battalion in the assault echelon and the remaining company in reserve. The two front line companies had each two platoons in the front line with one platoon following at 200 meters in support. The interval between front line tanks was from 50 to 75 meters. The leading wave of the infantry followed these tanks at 75 meters distance. Finally, the reserve company followed the support platoons by about 500 meters. Of course, distances were elastic and supports and reserve moved in columns by bounds.

A brief account of our experiences in using the above tactics will be useful in paving the way for the changes I shall recommend in speaking of future operations of tanks.

First, we discovered that in assaulting weakly held front lines we wasted our energies because as a result of the brief but terrific artillery preparation, the infantry was fully able to attend to the front lines without the interposition of the tanks. The sole result of our assault on these lines was to ditch and temporarily put out of action a larger number of machines which later were badly needed in negotiating the machine gun area beyond.

In future it will be better to have the tanks follow the infantry over the front trenches crossing by platoon at prepared places and then deploy ahead of them for the passage through the delaying area.

The second lesson was that in passing through the machine gun area the tanks outstripped and lost touch with the infantry with the result that we often got as much as 1000 to 1500 yards ahead of them before we knew it and had then to retrace our tracks and assault anew to remove the resistance which was delaying the infantry. In addition to the obvious disadvantages inherent in loss of time there was another defect even more objectionable.

The time we spent aimlessly wandering ahead of the infantry gave the enemy time to spot us so that by the time we got back we were about as popular as a troop of skunks, surrounded as we were by a halo of bursting shells.

In retrospect the reasons for this loss of contact are perfectly clear though at the time they were less evident.

In the first place, the tank is 50% blind and wholly deaf. It may be under machine gun fire and may actually be receiving hits without it's crew being aware of the fact unless bullet splash comes through the eye slits. Since the chief means of locating machine guns is by their sound, we missed many. Nor were we able to physically crush all we saw having often to content ourselves with simply killing or driving away the crews. Further, the enemy machine gunners never fired at us unless we had seen them. In this way, another large proportion escaped our solicitous attentions. The answer to this situation is the interpolation of the tanks between the infantry scouts and the assault echelon and to have the scouts signal the location of the machine guns.

Another trouble resulted from the fact that the two men in the tank were so busy looking to the front that they forgot all about the infantry. Future tanks, whatever the size of their crews, must have a contact man so situated that he cannot see to the front, and with no duty but that of watching the infantry behind them.

Finally, considerable fault lay with the infantry. The presence of the tanks often seemed to cause them to lose all feelings of responsibility for their own progression. When fire was opened they

simply lay down and waited for “George to do it.” Several bad consequences resulted from this. First, much time was lost. Secondly, in the case of guns we failed to physically squash, new crews materialized who fired on the infantry. Again, when the enemy lost a position he invariably deluged it with fire. The length of time it took the recumbent infantry to reach the scene of the late unpleasantness was about equal to the time it took him to arrange this concentration. In this way their tardiness cost them dearly.

As a counter to the foregoing, infantry following tanks should be trained to conduct themselves just as if no tanks were present. This will speed them up, insure the capture of temporarily silenced guns, and will not be costly because when the tanks are attacking a gun it will invariably shoot at them rather than at the infantry. Also, the steady advance of the infantry will cause concealed guns to open fire and so disclose their position to the tanks.

Another lesson we learned is that the interval of 75 meters between tanks is too small, there are not enough targets and tanks are wasted.

We also discovered that the fire of artillery against tanks is much less deadly than reported. Beyond 600 yards it is practically innocuous and is not deadly under that range. On October 15th, Lt. Llewellyn attacked an enemy battery in position and after an advance of 1400 meters entered the battery. He lost two tanks.

Before passing to the discussion of future wars I want to call your attention to an apparent anomaly and to emphasize a phase of war not sufficiently dwelt upon.

The tank is the latest manifestation of that long line of human endeavor directed towards the laudable end of fighting safely, of killing without getting killed. Yet just as surely as the value of the first savage (who invented the throwing stick to increase the range of his javelin) depended on his personal courage and not on his trick device, so surely does the value of tanks depend upon the valor of their crews. In proof of this and as a modest tribute to some of my late comrades I shall tell you one or two instances taken at random from a long list of similar exploits.

On September 27, 1917, Captain Higgins while working a machine gun in his tank was blinded by bullet splash. Changing places with his driver he continued to operate the tank by touch signals for more than two hours.

On September 12th, Captain Semmes lost his tank in the Rupt de Made river, on coming to the surface he was fired on by a German at about twenty yards. Seeing that his driver had not come up, he dived for him and having rescued him, swam ashore and killed the German.

On November 26th, Captain English found his tanks stalled in a trench. German machine guns were firing at him at two hundred yards. Yet to steady his men while digging a passage, he stood on the top of the parapet. On October 1st, while personally removing the fuses from a German mine field he met a glorious death.

On the same date, Captain Williams had the calf of his leg blown off while leading his tanks. Undeterred, he chained himself to the tail of a tank and went on, until he fainted from loss of blood.

I could tell many more such tales, but enough has been said to show that it is the unconquerable soul of man, and NOT the nature of the machine he uses, which insures victory.

## TANKS IN FUTURE WARS

In beginning this phase of my story I am forcibly reminded of the remark of an old negress who, on being called upon by a judge to define virtue, replied, "Sir, they do not exist." Yet since the same statement applies to almost all other components of the army as well as to the tanks and since moreover the lack of fact but gives wings to fancy, I shall describe the future employment of tanks when and IF we have them.

I do this the more readily since, while I am not one of those who dreams of Utopia, neither am I like the old Scotsman who upon seeing the unwieldy bulk of "Mons Megg" exclaimed, "This cannon is so large that it cannot be moved so is useless in war, hence all cannon are useless."

The definite characteristics of the next war are as insoluble as are those of the unborn babe. From his parents we may deduce his probable color. For the next war we can alone opine that it will consist of death, wounds, and destruction. How the war will be fought or how the babe will think are veiled, but just as surely as we know that the child will have hands so are we certain that the next war will have tanks.

Before discussing the various operations in which tanks may take part I will state, in the order of their importance, the characteristics which my experience leads me to believe the future tank should possess.

These are:

1. Mechanical ruggedness, long life, and great cruising radius.
2. Light weight.
3. Road and cross country mobility.
4. Speed.
5. Armor.
6. Gun power.

Some of these requirements are self evident. By light weight I mean that the absolute weight must not exceed 15 tons and the flotation be around six pounds to the square inch. Speed is a relative term. To me it means an ability to move continuously at any rate from one to ten miles an hour without distressing or overheating the engine.

Armor is a necessary nuisance because the craze for safety impels designers to overdo it to the detriment of speed and mobility. Over eighty percent of the hits on a tank occur on it's nose. Here and over the engine the armor should be heavy and so shaped as to discourage normal impacts. For the rest of the body, splinter proofing with sloping plates will have to do.

Targets will seldom be found for more than two weapons; a short range cannon and a machine gun. The machine gun must be capable of A. A. fire on the march only.

To the casual observer, and that term includes the majority of army officers, the tank of 1918 is the last word; it is the TANK. A feeble, blind, lumbering affair; "Half devil and half child." Only

those of us who have doctored and nursed these grotesque war babies through the innumerable ills inherent to premature birth know how bad they really were and by virtue of that same intimate association are capable of judging how much better they surely will become.

In picturing their future use I shall be guided by my own opinion of their possible capabilities, but on the other hand shall present the subject wholly from the restricted perspective of a tank officer and dwell upon situations best suited to the exploiting of the value of tanks well knowing that in the actual application of such a system the equally mandatory demands of the other arms will force a compromise, possibly which will be poorly adapted to the best interests of any individual service.

The chief drawback under which the whole military profession is now laboring arises from a too unimaginative conception of the probable nature of the next war.

Too many people vainly fancy that future unpleasantness will follow as a sealed pattern the World War; with trenches, barrages, and plastecine maps. With air photographs so accurate that the latest activities of some careless rabbit will be clearly discernible. Wars of preparation, concentrations, and chocolates; of air raids, welfare workers, and Big Berthas. Above all, wars of endless entrenchments and flankless armies. They forget that not in Asia, Africa, or America can such wars be staged, because all the above luxuries depend upon two things. First, ROADS; hundreds of good metalled roads to carry the limitless supplies. Second, on FRONTS; short enough to be continuously occupied and “get-at-able” enough to permit of the feeding of the garrisons. In the continents just named the scanty network of inferior roads precludes the first, their vast size prevents the second of these essentials.

Still to be orthodox we shall stretch our credulity to the point of assuming that we shall enter another war in the familiar terrain of western Europe. In that case any tanks using our tactics of 1918, amended as I have outlined in discussing our experience, will be of undoubted tactical value but as it is futile to discuss this untenable hypothesis further let us survey the more probable circumstances which in a war in the vast continents of the “A's” will most likely confront us.

In considering such situations we encounter interesting, and to the student of history, familiar conditions.

Large areas, occupied by armies of reduced size, or at least in less concentrated masses clinging like bulbous growths to some river, railway, or partially improved road from which they draw sustenance and dispersing their depots to a degree never before dreamed of in a partially futile attempt to avoid the growing menace of the air. Beyond these we see antennae of smaller units, brigades and regiments of infantry, regiments and squadrons of cavalry, supplied from the main body by truck and tractor supply columns, and trembling lest Napoleon's “Fifth Element” make inoperative their precarious means of existence.

Along an avenue of supply from the opposite direction comes a similar monster feeling and poking and groping until at last, contact is made and the day of battle has arrived. But, will it be a battle after the dear departed pattern of the World War? Will the inadequate and attenuated line of supply be able to bear the strain of transporting the millions of pounds of artillery, trench mortar, machine gun ammunition, gas, oil, and spare parts necessary for the methodical preparations, the area shoots, the sundry concentrations, the counter battery and the aerial bombardments? Hardly. In such regions the fragile line of rails, water or mud, the placenta of the army, harassed by

dropping bombs, cavalry raids, and the vicissitudes of the weather will prove inadequate to the double task of feeding the maw of the guns and the bellies of the men. A choice must be inevitably made, and the bellies will win. Ammunition will be limited to that in the limbers and the ammunition carts and the combat wagons.

Let us continue our battle and assume that since both generals are hardy men, finesse is abandoned and they come to grips, head on, with the usual and over surprising attempted envelopment to a flank. To attain results one set of infantry must advance to such a place that from it they may threaten to operate upon their adversaries with the bayonet. How shall they get there? Lack of guns and ammunition prevents the soothing accompaniment of the customary preliminary and supporting fires. What artillery fire there is will be directed against the opposing field guns or some specially tempting or noxious infantry targets.

The infantry must advance, if at all, under a fire superiority gained by their own efforts; but, as the first of the assault echelons appear the “Tock Tock Tock” of the defender's machine guns sounds on every hand to be instantly combated by the equally concealed cackling of the attacking guns. As the lines draw nearer the droning roar of the rifles and machine guns is enhanced by the gibbering shriek of the automatics and the occasional “bulb” of an accompanying gun. The attacker has the élan and the numbers; the defender, countless machine guns hidden, on reverse slopes, and little disturbed by the scanty artillery fire available. The struggle will be long and very slow.

What if, at this moment, either side loosed tanks? Long, low, swift, invulnerable tanks against whose armored snouts machine gun and rifle bullets chatter as harmlessly as hail on a brick yard?

From the days of the Hoplite, through the legionnary, the elephant, the heavy cavalry of the eastern empire, the armored knights of the middle ages, the Swiss pikemen, the Reserve Cavalry of the First Empire, and the column of Cold Harbour, may be traced the innumerable attempts of soldiers to devise some sure and deadly instrument with which to give the foe the “coup de grace” after they had reduced his ardor and engaged his supports by a general attack with their less positive weapons.

Whenever the means devised has accomplished the end sought we have had genius and the results have been great.

It is my opinion that in the tank and airplane combined, we have a new solution to this age old problem. Such a force should be used in a manner analogous to that employed by Napoleon with his heavy cavalry. The tanks and attack planes or a large proportion of them should be held as a reserve to be used after a general battle had developed the enemies plans and sucked in his reserves. Then at the predetermined time and place this force should be launched ruthlessly and in mass.

In addition to it's inherent power, it's rate of movement would permit of it's being engaged in less than one fourth the time required for an infantry reserve and the full power of it's onslaught would be developed from the first.

The use of tanks here described is not in accordance with present ideas in that the tanks act independently. On other parts of this same battlefield tanks will also be found carrying out their more usual tasks of aiding the advance of the infantry in a manner similar to 1918.

So much for the grand battle. Let us now discuss some of the less ambitious operations which tanks are well calculated to perform.

If we should again have trench warfare, and a perniciously active G2 must have his lust for information in the shape of prisoners satisfied, two or three light tanks can execute a trench raid quicker, cheaper, and more surely than it can possibly be performed by a box barrage and a wagon load of grenades.

We are all familiar with the actions of an advance guard. Some one in the point signals "Enemy in sight," immediately adding; "In large numbers." The point deploys and opens fire; the advance party roused from its lethargy, hurries forward and does likewise; the support moves up cautiously sending out patrols, messengers hurry to the column commander, the main body halts. At the end of an hour these portentous operations have resulted in the driving out of one enemy automatic rifle.

If two tanks were placed ahead of the point the march would be relieved of its present "hide and seek" features. If fire were met, the tanks would remove it or else prove that it consisted of at least a field battery and a battalion of infantry. The impossibility of sending infantry patrols to suspicious places or high ground along the line of march could be overcome by doing it with a tank from the support. In a word, the column would "move." Of course, the bankrupt condition of our country precludes the possibility of there ever being enough tanks to use them in this manner in normal advance guards but in the case of pursuits or exploitations where speed was vital they might well be so used.

For this duty the tank is eminently useful and the unfortunate circumstances necessitating a retreat justify any expense to mitigate them. The firepower of even one tank can cause the enemy to deploy and bring his guns into action. Its speed makes it possible for it to rejoin the main body after the delay and the fact that it has no flanks makes it immune to the usual "bugaboo" of rear guards, a cavalry envelopment. I admit that it is very hard for me to imagine anyone possessed of tanks retreating and modesty forbids me to picture the ensanguined conflict which would occur if the pursuers were also tank equipped.

## TANKS AND CAVALRY

For large cavalry actions either in raids, on lines of communication, strategic or parallel pursuit, or operations against the rear of an enemy army in battle, the support of a body of tanks will be of particular advantage. They will insure the rapid march of the column by brushing aside small forces of the enemy who attempt to block the road. They will contain large forces and act as a pivot around which the cavalry can maneuver and then breaking off the fight rejoin the command. They will act as flank guards. They will add to the firepower of the cavalry in a battle and they can cover its withdrawal. Further, they can carry demolition material. For all of these operations, even so small a force as four or five tanks would materially benefit a cavalry division. Of course, in such operations they will not live forever.

## STREET FIGHTING

In order to avoid the criticism that we are seeking to devour any of our neighbors we will assume that an expeditionary force has landed on the planet Mars. There we find a hostile population poorly prepared for war but possessed of numerous villages of brick or adobe construction. In

clearing such a village there is no fear of artillery so the tanks can go up the streets. This they do as follows; in narrow streets two tanks in single file precede the infantry. The first one is responsible for the doors and cellar ways on the ground floor.

When it is desirable to enter a house the tank butts in the door. The second tank is responsible for the upper stories and roofs. On coming to a cross street the tanks move into the middle of the intersection and halt, dispersing any formed bodies of the enemy they see on the cross street; they also serve as an island behind which the accompanying infantry can dodge as they cross the street.

On wide streets the tanks are used in pairs as before except in the case of the rear tanks which are responsible for the doors and windows on the side opposite to the one on which they move.

### TANKS VERSUS TANKS

Whatever opinion you may entertain of the possibility of our impoverished country supplying us with tanks you must face the fact that many of our possible opponents will be more generously provided for.

When you fight tanks remember the German dictum that “While tanks can take anything, they can hold nothing.” So save your fire for the accompanying infantry.

Against the tanks themselves only the fire of artillery or of accompanying guns is useful and then only at the shortest possible ranges. You will only get one shot so make it count.

The surest counter for tanks is tanks. So far as I am aware, no definite tactics have been worked out for such actions. The British have vaguely stated that they should follow the general principles of naval battles. This is probably so, but due to the very unstable gun platform afforded and the small size of the targets, the methods used must be more akin to those of Trafalgar rather than of Jutland.

### CONCLUSION

I will close by reading you a quotation describing a battle of the future in which tanks play a not inconspicuous part. Since it was written in 1923, I must ask you to believe that the inspiration which produced it was spiritual rather than spiritus:

“General Carbon, I think the battle is ripe, direct the 2nd DEATHBOLTS to charge the enemy left.”

So are the fates of nations settled!

By this simple order, Lieutenant General Alanzo G. Gasoline, seated at his green lit desk in the gas-proof seclusion of his command car, loosed the two million pounds of petrol propelled hate on the tottering flank of our doomed opponents.

But, how can human Dictaphone describe the inspiring majesty of the sight which soon unfolded itself before our eyes on the screen of our radio-motion-picture projector whose lens high above us in the observation helicopter commanded a complete view of the battle field.

As we gazed in haggard expectancy to the extreme right, our screen showed only the scorched hills, their blasted vegetation looming ghostly through the green haze of the gas clouds. In an instant, however, the line of our scout tanks appeared over the crest and dashed on the foe while behind them, in perfect order, came the three ranks of our incomparable 2nd DEATHBOLTS.

Long sordid lines of flame poured from their twin exhausts attesting to the top R.P.M. of their engines while the air above them frothed with the waste oxygen from their fighting compartments.

Instantly, the enemy guns spotted them; great geysers of sand and mud burst in their ranks; some were hit. One I noticed cracked open like a walnut while it's doomed crew hurtled from it only to sink like charred embers in the reek of the all consuming gas.

Despite my staff training, the battle lust grew on me. Moved by an unaccountable impulse I switched on the auditory microphone so that the sounds of the distant battle were as clear to me as were it's sights.

On thundered the tanks. Shell fire was impotent to check those dauntless chauffeurs! The enemy realized this and played his last card. From the charred draw on his left appeared the solid mass of his reserve tanks charging straight at the now disorganized DEATHBOLTS.

Pandemonium broke loose. To the tock-tocking of the whirling caterpillars, the roar of the guns, the shriek of the engines, and the all pervading hissing of the gas was added the high staccato hum of airplanes as our supporting squadrons, flying low over the 2nd DEATHBOLTS squirted liquid fire into the eye slits of the enemy's tanks.

All of this takes long to dictate, but it happened with amazing quickness. Nearer and nearer waddled the opposing lines, their rate of approach approximating fifty miles an hour. Could steel and rubber stand the shock?

Then with a shattering roar they met. Sparks flew. Track plates, slivered into a thousand fragments, filled the air. So terrific was the impact that many tanks simply exploded; completely dissipated by the shock.

The chaos of the melee lasted a full minute. Then we saw the third line of the DEATHBOLTS sweep through the ruck and on over the enemy position to victory.”

A handwritten signature in black ink, reading "G.S. Patton, Jr." in a cursive, slightly slanted script.

G.S. Patton, Jr.  
Major, Cavalry  
February 20, 1928



## TRAINING MEMORANDA TO HIS REGIMENT

By Colonel George S. Patton, Jr.,  
3d Cavalry

The Cavalry Journal  
July – August 1940

*My observations at the maneuvers in Georgia and Louisiana induce me to re-stress the following points which are so obvious they are never remembered.*

### CAVALRY SCOUT CARS

Scout Cars are not Combat Cars. Their mission is to find out and report, not to fight except when it cannot be avoided.

It is not necessary to push your nose against the glass to see through a window. Observation from a distance is just as efficient and much safer. Also, you may not be observed. **USE FIELD GLASSES.**

On approaching a curve or ridge under conditions where an enemy is apt to be encountered, stop as far from the critical point as circumstances permit (not over 400 yards), and send up a dismounted man to observe. If he is fired upon, cover him with your guns.

Stop on our side of cross roads so that the enemy cannot use them to cut you off.

**ALWAYS** put out flankers when you halt.

If attacked by enemy planes fire at them with everything you have. If your are under cover keep quiet.

In delaying actions fire from your ground mounts, and get the car under ground defilade. This action will deceive the enemy as to what is against him, and it will protect your car; a good enemy will have cannon or 37mm guns well up. Bushes do not stop shell. Open fire at long range. Your job is to delay, not to kill.

Your armor will not permit you to assault, but your road mobility will enable you to go around. Do so. Or, you can hide off the road, and let the enemy pass, and then go on.

Enemy planes seek objectives near roads, so when you hide, get well off the road. Take out your windshields and cover your cars with fresh local brush. Withered brush is a dead giveaway. And again **Cover Your Flanks.**

When you discover anything **REPORT IT PROMPTLY AND CLEARLY**, using regimental code. Keep sending until you get an acknowledgment.

Fill your tanks at every opportunity. In withdrawals destroy all gasoline you cannot use.

## HORSE CAVALRY

The secret of success in mounted operations is to GRAB THE ENEMY BY THE NOSE AND KICK HIM IN THE PANTS.

As soon as horse cavalry hits opposition contain it in front with a minimum of force, and get around it's flanks. THIS OPERATION MUST BE AUTOMATIC FOR ALL UNITS FROM THE PLATOON UP.

Against motorized columns the objective is the trucks. At maneuvers these trucks will be just around the first bend or back of the first hill. In war they will be at the limit of our light guns. Attack the trucks by fire; close contact is not necessary. Tracer bullets will be very useful. If the wind is favorable, set fire to anything that will burn and reach them.

In delay by successive positions along an axis use guns and automatic weapons on the head of the column, and keep picking on the flanks. It is less costly and much more effective.

In leaving a position, move straight to the rear by squad. Avoid the roads as they will be shelled and bombed. Pull out in such time that the leading elements of the enemy cannot get to the position you have left until you are covered by the next. Leave a few light guns in an intermediate position to fire on the enemy when he first arrives in the abandoned position. This will cool his ardor. As soon as you occupy a position reconnoiter cross country routes to the next position, cut the fences, and prepare and mark the stream crossings. When you fall back, move out rapidly but not hurriedly. THINK AHEAD.

Always cover your flanks. If the enemy advance seems unduly slow, watch out, he is making a turning move.

In attack, push into close range by the use of machine guns and artillery. Use your rifles for the assault. ALWAYS HAVE SOME MEN ATTACKING HIS REAR.

In defense use machine guns and cannon only. Counter attack from the rear with your rifle troops.

Antitank guns must have their flanks protected by riflemen, or they will be taken by envelopment of dismounted men.

Always fell trees and burn bridges on roads leading to your position of bivouac. Slashings to be effective must be in cuts, dense woods, or causeways.

Antitank guns are deadly at one thousand yards. The guns in tanks are not. Select long fields of fire for your Antitank guns. Reverse slope positions for Antitank guns are only useful if they can fire at right angles to the line of advance of the tanks.

Never bivouac near a road. Only march on them, if you must. In strange country, airplanes follow roads and see things on or near them. If you think you have been seen going into camp, move as soon as it is dark. Outpost all roads WELL OUT and at obstacles if possible.

On the march carry saddlebags and canteen rolls in the trucks as long as you have any. On administrative marches, carry the automatic weapons, 37mm guns, and ammunition for same in trucks. Only have the pack saddles on the horses.

When going to war or maneuvers, leave the curb bits home.

Keep your trucks away from your horses.

Next to a windshield a khaki tent is the most visible object from the air.

Prevent the indiscriminate running about of trucks, command cars, motorcycles, etc. The more we have the more we use. It is not soldierly to send a two-ton truck for a can of beer, but it is done all the time. This must stop.

The above principles will be followed by all units of this regiment in instruction, in maneuvers, and in war.

The troops of this command, not engaged in the conduct of the Cavalry Concurrent Camp, will conduct tactical training concurrently with other training, and will include rifle platoon problems involving the use of attached light machine guns in attack and defense.

In general, the following procedure will be adhered to by the platoon.

#### IN THE ATTACK

The platoon with its light machine gun squad, will advance in the following order:

Two of the platoon scouts will precede the main body by such distance as will protect it from surprise enemy fire. The other scout will remain with the platoon leader, for such duties as may be required.

The light machine guns will follow the scouts as closely as the situation and terrain permit, with interval of from 35 to 50 yards.

The Platoon Leader will follow in a position from which he can control the movements of the light machine guns.

The rifle squads will follow the light machine guns with such formation and intervals as are necessary for protection, but such that will insure control.

The scouts will advance as long as they are under cover. When exposure is imminent, each will select a position for a light machine gun and signal it forward. Each gun will occupy its selected position and open fire, covering half of the target. The scouts will then advance and select alternate forward positions.

The light machine guns will move forward, alternately, on the platoon leader's command, with each gun engaging the entire target to cover the advance of the other. **IT MUST BE REMEMBERED THAT THE ADVANCE OF THE LIGHT MACHINE GUNS IS IMPERATIVE.**

While the machine guns are thus engaged, the riflemen of the platoon may be employed in attack on either or both flanks or in counter attack, or may be held in mobile reserve. If flanking movement is elected, the attack should be made at an angle of not less than ninety degrees to the line of fire of the light machine guns. It must be remembered, however, that a sufficient reserve should be maintained at all times to protect the flanks of the light machine guns.

It must be borne in mind that the surest way to avoid losses is to inflict losses on the enemy by your own fire.

#### IN DEFENSE

The machine guns and light machine guns are separated by much larger intervals.

Riflemen are used for counter attack on the enemy flank and rear. A sufficient number of riflemen must be used for close in protection of the automatic weapons.

## VICTORY IN EUROPE SPEECH

By General George S. Patton, Jr.,  
Commanding General, Third Army

May 8, 1945

Now that victory in Europe has been achieved, let us review the Third Army's part in this epic struggle.

From Avaranche to Brest, thence across France, Germany, and into Austria, the Third Army and its equally victorious comrades of the 19th Tactical Air Command have fought their way.

The Seine, the Moselle, the Saar, Rhine, and the Danube, not to mention twenty other lesser rivers have been successfully stormed.

The Siegfried Line has been penetrated at will. Metz, Trier, Koblenz, and Frankfurt and countless other cities and towns have been cleared of the enemy. More than eighty thousand square miles of country have been liberated or conquered.

You have demonstrated your irresistible powers in France, Belgium, Luxembourg, Germany, Czechoslovakia, and Austria. You have captured more than three quarters of a million Nazi soldiers and have killed or wounded at least half a million others.

But, in thinking of the heritage of glory you have achieved, do not be unmindful of the price you have paid. Throughout your victorious advances, your line of march is marked with the graves of your heroic dead; while the hospitals are crowded with your wounded.

Nor should we forget the efforts of those at home who have invariably provided us with the sinews of war, the means to Victory. To those at home we promise that, with their unremitting assistance, we shall continue so that with the help of Almighty God, and through the inspired leadership of our President and the High Command, we shall conquer not only Germany, but also Japan; until the last danger to life, liberty, and the pursuit of happiness shall perish from the earth.

# WAR AS SHE IS

By Colonel George S. Patton, Jr., Tank Corps

1919

## FORWARD

War, to quote Clausewitz, "Is but the continuation of policy by other means." Hence, logic demands of us that in approaching our subject we consider these other means; namely the soldiers and officers which are the molecules forming the "Body Military."

Having dealt with these we must consider war in general and finally the duties of the various arms which combine to produce the only admissible result, VICTORY.

It thus appears that we have set ourselves a task of no mean proportion and one which would tax the ability of a far more learned author. Therefore, we hasten to disavow any attempt at a full exposition and propose simply to set down some thoughts on this vast subject which our limited experience and reading has taught us to regard as specially important.

It is hoped that our modest effort will perhaps find approval in the eyes of that large class of readers who, while not soldiers, take a patriotic interest in our means of national perpetuity; the ARMY.

## CHAPTER I

### The Soldier

The success of armies and consequently the existence of states depend upon the caliber of the individual soldier. Therefore it seems self evident that soldiers should come from the people, the whole people, and nothing but the people.

To entrust our most sacred possession (National Existence) to any one class is as foolish as to entrust our legislature to a class of men who legislate for personal profit and not for national benefit. Yet in a measure we are guilty of both follies.

The history of war amply reaffirms the folly, above alluded to, of trusting to mercenary armies. Carthage fell by reason of having hired men to perform her military obligations. The Roman empire succumbed less to the victories of the barbarians than to internal dissensions caused by her Pretorian elected emperors. Later European history is replete with accounts of farcical battles fought by mercenary armies who made war, not victory, their profession.

Thus far our professional hired army has held untarnished the highest traditions of American manhood and patriotism. But the cycles of history are inexorable; the day will come when due to unjust prejudice and small pay the class of our enlisted soldiers will fall below the high standard it

has, until the present, maintained. When that day arrives, a second “Zama” will write a crimson “FINIS” to all of our proud hopes and noble ideals.

Yet even were it conceivable that our enlisted soldiers would give the lie to the precedents of history, the folly which maintains them instead of a national army, would still be inexcusable.

With wars on the present scale there is no nation rich enough to pay the vast masses of men necessary to maintain an active army and competent reserve adequate to its defense. Further, the laxity of national conscience which permits the hiring of others to perform the most sacred of duties, is a disease so insidious that if it is not eliminated it will sap the vitals of our manhood and patriotism, leaving only the dried and gaudy husk. For national protection, and for national health, the army must be composed of all the able bodied citizens whose age and physique permits to them the privilege of bearing arms. To put the matter more concretely; what manner of man is it who, when insulted, hires another to shoulder his responsibility? Even the despised jackal personally protects its young and not through the interposition of some more courageous animal hired by the offer of some choice bit of carrion.

It is true that in almost all our wars the manhood of America has given of itself and its resources with no niggard hand. But the final sacrifice in no way excuses the self indulgence which made it necessary and only makes more pathetic the tragic loss of thousands needlessly sacrificed to the “God of Ease” on the altar of untrained and undisciplined hoards.

Nearly thirty years ago, UPTON in his great book, “The Military Policy of the United States” warned us not to be misled by the fortuitous results of our past wars. He says, “Our military policy, or, as many would affirm, our LACK of it, has been tested during more than a century. It has been tried in foreign, domestic, and Indian wars, and while military men, from painful experience, are united as to its defects and dangers, our final success in each conflict has so blinded the popular mind, as to induce the belief that as a nation we are invincible.” Two more wars and sundry expeditions have combined since he wrote his book to heighten the unhappy belief to which he refers. And again in each case the price paid has been far in excess of the demands. We are a rich nation, but no nation is so rich as to be blameless when we pay not only in dollars, but in lives.

The whole subject is splendidly treated in Upton's book referred to above.

Assuming that the foregoing has had a success never before attained, that is, has convinced the reader of the necessity of a national ARMY, let us discuss the essentials of the National Conscript.

First, we must turn, as in all else, to the mothers of America. Women whose great love raises them superior to the pains of childbirth are surely of such fine fiber as to realize more completely than man the mandatory necessity for love of country. The boy should learn reverence for his country at his mother's knee. His childish lips should lisp the immortal words of that great sailor, Decatur, “My country may she ever be right; but right or wrong, MY COUNTRY.”

Next, in our schools the youth should learn to reverence his flag and not treat it simply as a handsome decoration. Daily he should study and hear recounted some of the splendid deeds of patriotism with which our history abounds. Surely, this is vital, for if the alphabet and the multiplication table develop the mind, is not the soul, too, worthy of instruction?

The foregoing are the fundamentals and should produce a young man capable of deriving full advantage from his period of service. Entering it so equipped, he will gain more than he gives while serving his country. Let us see why.

The man who finds \$20 on the street or wins it at a slot machine thinks lightly of it and soon it is as lightly spent. But the man who works and sweats for a week to gain the same amount respects it and grudgingly parts with it when he has won it. So it is with love of country; Patriotism. The light feeling of reverence engendered by shouting for the flag or sitting through the stifling tedium of a patriotic address on the Fourth of July is too haphazard, too cheap. A few years of this will destroy the foundations of honor for the Flag which the home and school have (we hope) engendered. It is an "easy come, easy go" sort of patriotism. The man who has served his country for a year with sweat and some discomfort feels truly that he has a part of his country, that of a truth it is HIS; and he is a Patriot.

Again, the boy who lives at home has little or no respect for elders or equals. He frequently stands in his parents shoes and belongs to "the gang"; this gang, being the best or the worst as the case may be, gives him a class feeling. He is a snob of sorts, at least he is not democratic. He is careless of the rights of others. Liberty to him means license. He is not an asset to society, but a liability.

The boy who has served his time as a soldier has stood on his own feet. He has become a national servant, not a member of "the gang." He has seen rich and poor doing just what he is doing. He is considerate for the democracy of the squad room, knows no superiors, and the man who carelessly disturbs his sleeping comrades by a late and noisy entrance will gain a most valuable lesson as to the rights of others in the form of a well aimed boot. These things bring a realization of the fact that liberty means equality for all, not license for one.

Yet again, what is the athletic development of one out of ten of our home grown boys? Nothing. They play a little baseball or tag and for the rest, watch the other fellow, the professional, do it. While serving their country they must get exercise and consequently health and many added years of business and usefulness.

For these reasons we affirm that the man who serves his country serves also himself. To get the maximum results presupposes two things. First, the willingness to serve (bred of early training in patriotism) and second, disciplined instruction.

DISCIPLINE is truly a trite word, much used and as much abused as it is little understood.

Discipline may be defined as "Prompt, cheerful and AUTOMATIC obedience." The necessity for promptness is obvious if we consider that if each man of a company of 250 men delay thirty seconds in finding his place it would take two hours to form the company. Cheerfulness is as essential in discipline as in any other human undertaking.

But, why automatic? If Johnny does what he is told promptly and cheerfully why make a machine of him? We don't, but excitement does. Unless he has automatic discipline as a steering wheel, he is very apt to hurt himself and sure to hurt his country. Let us try to explain this vital matter by the use of a few homely illustrations.

It is the common experience of mankind that in moments of excitement, and imminent death is quite exciting, the conscious mental processes of the brain no longer function. All actions are



subconscious, the result of habit. Troops whose training and discipline depends on conscious thought become helpless crowds in battle. To send out your boy in such a condition is MURDER.

Let us suppose that you drive an automobile. Do you remember the first time you tried to stop your car in a pinch? You knew exactly what to do and had your brain worked you could have done it, but the sight of that toddling child or the shriek of that horn in your ear froze your brain. You jumbled and fumbled and either had an accident or were saved by the direct interposition of providence. Shells sound worse than horns. At the end of a certain time, according to your ability, you learned to drive by habit. You were a disciplined driver. But remember that driving an automobile is a very simple matter. Some years ago they were advertised as "foolproof." Being a soldier is not simple. There are an infinite number of things to do and each is dependent on such variables as the nature of the ground, the amount of fire, the sort of fire, the time of day, the purpose of the operation, etc., etc. You in your maiden automobile accident were in the midst of your normal life. The soldier is in a new world, he is tired, perhaps hungry, he is often wet, for days he has been thinking of the fight, his nerves are on edge and at last in the appalling presence of complete dissolution you don't see why Johnny can't think. Could you?

What takes you perhaps a month to accomplish with your simple machine and full belly will take the soldier a year with his complex duties and in fatigued condition. If you do not wish to commit murder, then DISCIPLINE YOUR ARMY.

As we have said, this question is vital and most lamentably misunderstood. So at the risk of tedium we will give still another illustration.

Most of you have played football or at least know something of it.

Will you kindly remember the incidents of the first days of practice? The quarterback calls "signal." The line shifts uneasily, the ends close in or move out, some halfback edges sideways. All the team promptly and cheerfully were doing their best, obeying the quarterback, but none of them were in place automatically. Then comes the signal, given haltingly, "42 – 25 – 13." Meaning that No.2 back carries the ball through No. 5 hole. The team being undisciplined had to do a lot of thinking. The following was their mental process. They all knew that 25 was the play signal and they strove to remember, "What in hell is No.2"? Oh, yes, the left half and five is the hole off right tackle but just as this momentous decision is reached, the ball is passed. The team is dead on it's feet and the player is thrown for a loss. Why? Lack of DISCIPLINE!

Take the same team two months later. The quarterback calls "signal." The line and backs fix like iron, all just right. Then the signal "27 – 25 – 19." At 25 each man knew the play not by reasoning it out, but by habit. Automatically, "25" electrified their subconscious minds. It was a command. They could only do the right thing. The ball was passed. The team moved as one. Five yards was gained. Again, why? DISCIPLINE! By this boresome illustration we have again tried to explain DISCIPLINE. It is not a foolish thing, it is not a demeaning thing, it is VITAL.

It is no pleasure for officers to always be correcting men when they fail to salute or to stand at attention properly, but it is their mutual duty to their country to do so. The officers are the quarterbacks who give the signals, the men are the players at attention, on their toes, waiting for the order for the ball to be passed. The discipline of drill and of daily saluting and coming to attention are the signal practices. The bayonet work, the bombing, and the target practice correspond to the exercises in blocking and tackling the dummy for the football player. The maneuvers are the

practice games. But just as surely as the automatic obedience to the quarterback will give the football team the edge on the other side which no amount of fine individual tackling and blocking can replace, so no amount of individual fine work such as shooting or bayonet fighting on the part of a hundred Johnnys will win the battle if they are wanting in automatic obedience.

There is as tragic a difference as there is a similarity between war and football. Lack of discipline at play means the loss of the game. Lack of discipline in war means death, or defeat, which is worse than death. The prize of a game is nothing. The prize of war is the greatest of all prizes, FREEDOM.

We trust that the foregoing has shown to a degree the necessity of a period of training sufficient to produce automatic obedience and has further explained the necessities for military courtesy and saluting both of which have been condemned by many people who have never missed a meal nor heard a hostile shot.

Further than this, the training of the soldier must be absolutely uniform; the result of responsible direction from responsible, trained officers of the General Staff. When we consider that in all wars fifty percent of replacements are required at the end of six months the necessity for uniformity of training becomes obvious. Interchangeability of working parts of industrial machines has long been recognized as an economic necessity. Men are the working parts of an army.

As has been noted in the preceding remarks, one of the salient reasons for a national army is the prohibitive expense of a hired one. Neither we nor any other nation can afford to pay men enough to make them willing to die. And even assuming this were possible, the results would be the reverse of satisfactory. Men so venial as to deliberately barter their lives would be equally open to similar offers from the enemy. This statement would seem to cast disparagement on our present regular army, but such is not the case. The men of our regular army serve from a spirit of adventure and a genuine liking for the service. The pay to them is incidental. It seems highly improbable that a decided increase in pay would in any way effect the number of enlistments. We as a race are not particularly adventurous, also we are naturally opposed to discipline since so few know it's purpose and necessity. Life outside the army is too easy and too full of attractions which, utterly bereft of any spirit of adventure, are yet sufficiently varied to satisfy the average desire for excitement.

Since we cannot pay enough to secure soldiers we must resort to compulsion and rely on a general improvement in patriotic education to make that service less grudgingly rendered and trust to the final educational influences of the army itself to insure the cheerful giving of life itself if the need arises.

But men in the service have requirements for amusement, etc., which the service does not wholly supply. He should be paid enough to give him a limited quantity of spending money to satisfy these wants, nothing more.

The often repeated statement that the country owes the soldier for his service is based on a misconception of duty and patriotism. The soldier, being a citizen, owes the country service and whatever he gets in return is a gift; pure and simple.

However, where it is proven that the soldier is the sole support of some dependent, the country should support that dependent during the service of the soldier to the amount normally contributed

by the soldier. And similar support should be contributed at other subsequent periods when the soldier is called to the colors for war or training.

Further, the actual dependents of soldiers who die in the line of duty should be supported by the government as long as that state of dependency exists, but no longer. For example, the widow of a soldier who remarries should no longer receive the support; the government not being bound in any way to maintain a new and incompetent husband.

All pensions and bonuses voted to soldiers after the termination of their period of service are most detrimental to public morality and national thrift because it is clear that any person advocating such a measure is simply offering to buy patronage to the extent of bribery, not from his own pocket, but from that of the taxpayers of nation.

This does not apply to pensions or support tendered to soldiers actually incapacitated while in the line of duty. Such soldiers have a most just claim to the consideration of the nation in whose service they suffered a permanent disability.

The above sentiments will doubtlessly be unintelligible to those who regard the nation as a convenience to the individuals. In our opinion such persons are parasites, not patriots. The nation is the one common possession of all of the citizens and as such they are all bound to insure it's maintenance. The nation is not bound to insure their maintenance.

The oft repeated remark that, "The country owes me a living," is the direct antithesis of the above and is nothing short of treason. The nation owes all an EQUAL CHANCE, but it is not responsible for the faults and follies of those who fail to avail themselves of these opportunities.

## CHAPTER II

### The Line Officer

In considering what manner of man the "line officer" (to include the grade of colonel) must be, we should be guided by the fact, often forgotten, that the officer is first a soldier. That he holds command, as an officer, should not be the result of shoulder straps, but of superior ability at soldiering. No amount of brains and ability in other civil or military affairs can in any degree outweigh lack of soldierly virtues.

The officer then, must be the result of a training similar to that outlined in Chapter One for the soldier, but he must possess these elemental virtues in a more intensified form.

Like the soldier, he must be cast in one mold, for he, too, is an expendable cog in the complex machine of war. Indeed, the wastage of officers is bound to be in excess of the wastage of soldiers because in the vast armies presently used, and to come in the future, the training will never be complete, particularly in long wars. The less trained the soldier is, the more officers must perish to show him the way.

The officer's sense of patriotism, discipline, and self sacrifice must be no incoherent shape, but it must be clear and vital so that it's lambent flame may distill that most vital of all his attributes, a sense of OBLIGATION. Since the necessity for a sense of obligation in officers is as little

understood as the necessity for discipline in soldiers, let us pause and attempt to define and portray it.

The sense of obligation or duty is inseparably connected to discipline, in fact it is the outgrowth of it. Like discipline, too, it must be automatic. The chief difficulties in its acquisition arise from the fact that it is made up of so many tiny and apparently trivial things. In essence, however, it consists of doing the task set, however small, absolutely, perfectly, and better than it was ever done before. Here is the heart of the whole matter; a perfect performance. Not perfect only as viewed by your superior, but perfect also in the light of your own conscience. It is not enough to do a task so that you can "get by with it." That is easy and worthless. It is the doing of the thing so that you can look your conscience in the face and say, "I have done my best and my best IS the best."

Let us illustrate the case by assuming a hypothetical situation for some young friend of ours.

Sitting in his quarters after supper, well fed and warm, he expands his chest and says, "Why, of course I shall always do my duty." But, in the morning at reveille, it is raining and cold, and bed is so very comfortable. The call goes, but his undeveloped sense of obligation permits him to snatch another two minutes. He just makes the formation of his company. Has he done his duty? Most certainly not. The soldiers already in ranks have seen him hurrying, he has shown them that it is possible for the "super soldier," the officer, to be almost late. He has not supervised the formation of his men. He has simply avoided getting reported as late. Our friend cannot honestly say to himself, "I did that job the best it could be done," unless his sense of duty is so undeveloped that he can lie to himself.

The foregoing trivial and tedious incident shows the crux of the whole subject. It is a concrete example of that leniency to "self" which is inimical to duty, and therefore to victory.

The reasoning which leads our friend to stay in bed that extra two minutes is the same as that which leads the reformed drunkard to take that one "harmless" drink; which ends in delirium tremens. It is the same reasoning, the same lack of character, which in the future hour of battle would lead our friend to fail his country and his cause.

Unless an officer so schools himself in the small things (so that he cannot live with his conscience unless he has done his best), the day will come when tired and hungry, he will halt just short of the objective he was ordered to reach, and by halting, he shall make useless the efforts, and deaths, of thousands.

This is why the officer's sense of obligation must be so developed that it will act automatically, no matter what his condition of bodily and mental exhaustion, so that the idea of not doing what he has been told to do, perfectly and completely, cannot enter his head.

This imperious sense of obligation is the mark of the thoroughbred in man as in horses. And in both it is the result of training. The cold blooded horse quits in the stretch when the race is already won. The thoroughbred passes the post at his best speed even if he dies for it. The cold blooded man, lacking a sense of duty, argues to himself that he has done enough, as much as any man would do, and he quits. The thoroughbred man, the man who has developed his sense of obligation by the unfailing performance of the small things, does not argue, he goes until his duty is done or until he is dead. Officers must have this developed sense of duty or else they had better never have been born to wear a uniform which they will inevitably disgrace.

If this inexorable conscience, this death defying sense of obligation could not be developed it would be futile to discuss it. But, it can, and to be worthy of the name, officers must possess it. They must not think of their rights, or their fatigues, or of what the other fellow has failed to do. In war there are no individuals and consequently their feelings as such do not exist. The least and the most that is required of an officer is a perfect performance of his duty. Not excuses, or failures, but results must be forthcoming. In doing his utmost, even to death, the officer is not conferring a favor. He is privileged to be able to give that much for his country. Those who wear the uniform of an officer in any other frame of mind are only living a lie.

The next attribute essential to an officer is COURAGE. Many who have never heard death whisper as bullets, or roar as shells, or creep invisibly upon them as gas, will wonder at this specification. Man is a poor thing at best and loves his little span of years better than he will usually admit. The word fearless is a misnomer; all men fear, some show it less than others. When we say that officers must be brave we mean that they must show fear less, they must be more stoical. And this, too, may be developed. Fire fights fire and fear fights fear. We must make officers so proud of their calling that the fear of disgracing their uniform shall be more potent than that of the animal shrinking from imminent dissolution.

It seems that enough has been said of the necessary attributes of officers to show that we cannot simply take a man and say to him, "By these shoulder straps I create of you an officer; patriotic, self sacrificing, disciplined, full of a sense of duty, and brave." Only God could do such a thing, and although history shows examples of such miracles, they are hardly in sufficient quantities to produce the expendable cog type of officer needed for modern war.

Viewed from the manufacturing standpoint which, unromantic as it is, is nevertheless the view we must take, officers can only be produced as follows.

Each year a sufficient number of soldiers who have completed their service and who desire to further serve their country as officers should be sent to military academies similar to West Point. The idea of this requirement is to insure complete democracy among officers and to produce a thorough understanding of the viewpoint of all classes of soldiers.

During the three years spent at these academies the patriotism and discipline taught in youth and in the army will be further developed. Careful attention and instruction will develop a fine sense of obligation and that special soldierly pride which produces courage.

Upon graduation, these cadets will join regiments and serve for at least two years as officers. This much service is necessary to make them efficient at their business. Is any graduate of a law school a lawyer until he has practiced law? How then should cadets be officers?

At the close of these two years, those desiring to, should return to civilian life and be given preference for employment in all branches of state and federal government. (Average age 24). Those who remain in the service should be promoted or retired according to their deserts. All who leave the service should be given a retaining fee commensurate to their age on retirement. In cases of emergency, they should be available to return to the colors in the grade they held when they retired.

We know well that the above system will be anathema to those who, while enjoying the ease and remunerations of civilian life, nevertheless, insist that a few weeks training makes them competent to command in war. Let us examine their contention.

Suppose some eminent broker has surgery for a hobby, reads about it two evenings a week, and attends several clinics during the year. Which one of you with an inflamed appendix will select such a man as your surgeon? If any of you would, then our definition of courage will have to be revised, along with our estimate of your sanity. How does the amateur soldier differ, except in the possible extent of his murders?

This is no reflection on the thousands of gallant officers who led our armies in the World War. On a desert island, in the face of necessity, one layman may, and must, operate upon another. But does such necessity justify the continuation of such a practice? Further, the temporary officers in the World War had almost all served over a year and were to that extent not amateurs. Some of the officers were better than regular officers, but the majority were not, because as we have said, miracles are not wholesale commodities. Training as outlined previously would have made all of them better in proportion to their capacities. Casualties would have been reduced in about the proportion of successful operations by a medical student to a doctor of some years practice. In the World War, three out of every six officers were graduates of training camps. One regular army or National Guard and two civil life, mostly doctors and special services. Will we have a year next time?

It seems incredible that in America, the land of specialists, trained men are demanded for every occupation except that of officers. Yet only in the army is the lack of trained specialists paid for with the blood of our first born and the tears of our people.

We will close this chapter with a few remarks on what should be required of officers selected as outlined above and of what they should expect of the people.

At the Military Academies cadets should be instructed by lecture and recitation in the traditions of the service. They should be made to memorize and recite upon many of the citations for heroic deeds with which the history of our army abounds. By constant reiteration they should be impressed with the fact that the sole function of an officer is to serve his country and his men. If such service demands his death, it is but a better chance for immortality. At the military academies, as at all institutions of learning, there is a grave danger that too much attention shall be devoted to "means, to an end," not the objective, which is; the ability to lead men in battle. This must be carefully guarded against. The ability to lead presupposes knowledge of human nature. Such knowledge is both the fruit of personal experience and the study of the history of wars, all wars. Such study makes men see the result of cause and effect, it makes them see the sublime in their profession. They must see this and strive for it or in the drab reality they will falter. The road to high command leads through a long path called "The History of War." Like all long roads, the scenery is not always interesting. There are desert stretches of prosaic facts, but now and again the traveler reaches eminences where he sees the most sublime panoramas ever vouchsafed to mortal man; the deathless deeds of the great who have passed to that Valhalla which is death, but not oblivion.

To be useful in battle, military knowledge, like discipline, must be subconscious. The memorizing of concrete examples is futile for in battle the mind does not work well enough to make memory trustworthy. The officer must be so soaked in military lore that he does the military thing

automatically. The study of history will go far towards producing this result; the study of mathematics will not.

This study must continue after entry into the service and it must continue until the day of retirement. No study is more worthy of the human mind in that its end is the alleviation of the sufferings of soldiers and the augmenting of the glory of the nation. The military academies can only start the young officer on the path he must later follow in the service. Like the successful businessman he must think his profession, he must master its most intricate, as well as its most simple, details.

At this point it is well to call attention to the possibility of falling into an age old error. Namely that of presuming that all future wars will be an exact replica of the most recent past war. Men forget that throughout the ages wars have been of steady growth and that when the foam of freak expedients has been blown away by the sterile breath of retrospection, war settles back to the same old bitter draft, the ingredients of which, have been, are, and forever shall be; DISCIPLINE, SIMPLICITY, and BOLDNESS.

Strategy and tactics do not change, only the means of applying them differ. A sound and profound historical education should have as its objective an absolute foundation in the immutable principles of war comprehended so that they are sufficiently flexible to permit of having emplaced on them the transitory expedients which evolution from time to time produces. The uncontrolled specialist is one of the greatest menaces to an army.

The attachment of officers in the junior grades to arms of the service other than their own is most efficacious as it broadens their viewpoint, increases mutual appreciation of the difficulties of the other fellow, and explains the teachings of history.

Constant maneuvers should be held in order to instill in line officers a facility for prompt tactical decision. This will be dealt with more at length under the heading of "General Combat Principles."

Experience by all combatants in the World War has shown that many of the failures on the part of line officers arose from physical weakness due to age or bodily defects. Constant vigorous exercise, the result of long training, would go far to alleviate this condition. The body as well as the mind of officers must be fit for war. Promotion by selection and elimination will aid in obtaining these results by eliminating the mentally and physically unfit and by insuring the appointment of relatively young men to important commands.

This seems as fitting a place as any to mention a subject which has been the object of much popular misconception.

Many un-military observers have noted the fact that the Allied officers during the World War seemed to be on a more familiar footing with their men than was the case with our officers. The contrast was further accentuated in the eyes of the lay reader by the fact that his whole association was confined to soldiers who were undergoing training in America.

The observers referred to got their impression from association with trained front line troops. Here the bonds of long association, the ever present possibility of imminent death, and the mutual trust and understanding engendered by long association of trained men made the arbitrary discipline of the training camp unnecessary. Had these observers visited an Allied recruit depot they would have

seen discipline so strict as to make ours seem paltry. The more un-military a nation, the more severe must be the initial methods of discipline upon arrival at the recruit depot, so as to penetrate the hard layer of unrestrained license with which the recruit is encrusted. Discipline, like castor oil, is unpleasant to take or to administer, but it is absolutely essential to the health of the body military.

In the foregoing we have tried to show as briefly as possible the obligations of the officer to the state. Let us now investigate the obligations of the state to the officer.

At the close of the last chapter we advocated a minimum remuneration for the soldier on the grounds that the soldier owes the country service. The unthinking people will doubtless hasten to apply the same argument to the officer. This, however, would be an error. The duty of service is an obligation and privilege exactly analogous to the duty and privilege of voting. For this reason, it, like voting, imposes no obligation on the state to reimburse the soldier or voter.

Congressmen and senators are also voters, but they are a special class charged with administering the power vested in them by the popular vote. Their entire time during their tenure of office is supposed to be devoted to public service. They are public servants and as such are entitled to pay which will enable them to live in a manner worthy of the nation which they serve.

Similarly, the officer is a special class of soldier and as truly a national servant as the congressman. For the same reasons he must receive adequate pay.

Further, a political career does not wholly prevent a continuation of the normal business or profession of the politician, nor is it usually for life. The profession of an officer, on the other hand, does preclude any business ventures; it entails hardships, and it makes many family moves necessary, none of which are paid for by presumptive mileage.

A political career often acts as a stepping stone to preferment in business or social position on the return to civilian life. The military profession does neither. In order to insure the presence of the best type of men as officers we must give sufficient pay to counteract the necessary hardships of service.

While it is a patriotic duty and privilege to be an officer, we are all human and if the path to glory is beset with its normal hardships, coupled to poverty, the temptation to let some other patriot wear the shoulder straps will remove many a good officer from the service.

## CHAPTER III

### Staff Officers

The Staff Officer, as a class, is probably the object of more criticism than any other officer in the service. This criticism is partially justified and partially the result of misunderstanding. We will attempt here to indicate some of the causes and some of the methods of removing them.

Like line officers, staff officers should first be soldiers, next officers, and finally, as a result of special training and aptitude, staff officers.



The general duties of the staff may roughly be classified into three divisions; those charged with tactical duties, those charged with administrative duties, and those responsible for supply.

Under the tactical staff we may group, Chiefs of Staff, Assistant Chiefs of Staff (specially designated as G1, G2, G3, G4, G5), and Regimental and Brigade Adjutants.

To be efficient and to avoid criticism, the general qualifications of the tactical staff are as follows, arranged in order of importance:

(a) A personal knowledge of troops, learned by actual command. This knowledge is necessary so that staff officers may appreciate the mental and physical condition of the troops they direct. Such a knowledge will lead them to take into account the psychological changes which men undergo during war. It will lead them to understand what may be asked of soldiers, so that they will not demand of tired, discouraged, or raw troops the same exertions as they would of good, eager, fresh troops, or of troops exalted by recent successes.

This knowledge would prevent the issuance of orders, which, since they are impossible to execute, only lead to contempt of authority by the necessity of noncompliance. On the other hand, the same knowledge would enable them to demand more of officers who through temperament or extreme leniency are too easy on their men.

Lack of experience with troops is largely responsible for much of the criticism heaped on staff officers.

(b) Next in importance comes loyalty to the chief they serve. Nothing is so subversive of discipline as criticism of superiors by juniors. This is particularly true in the case of staff officers. A staff officer who finds his ideas inimical to those of his chief should, in justice to both, ask to be relieved of duty.

The staff officer is not just a member of his General's military family. He also acts as his representative in many cases. Both of the relations make it necessary that he be in the closest accord with his superiors. The custom of staffs living and messing with their chief is well calculated to strengthen the ties of mutual understanding and confidence essential to efficiency.

Loyalty also demands that staff officers shall be discrete. Their position should and does place them in possession of many military secrets. The possession of this special knowledge on their part is well known to other officers and the natural curiosity of these officers later cause them to interrogate the staff officer on all occasions. Further, human vanity is such that an officer having a friend on the staff will be prone to boast of it and to repeat the "inside dope" which his friend is supposed to have imparted to him. Usually, this information is incorrect or at least the meaning attributed to it is foreign to that originally meant, but it is capable, none the less, of doing harm. The only remedy is absolute reticence on military subjects. Many new staff officers have been surprised to find how enormously popular they suddenly become with friends and superiors. If they yield to the desire to please by talking, they are not fit for their position.

(c) Perhaps there is no calling under heaven which calls for more TACT than a staff position. The duties of the office frequently make it necessary for the staff officer to give direction or instructions to officers of superior rank. In this he must be most tactful, and eschew as he would perdition, the use of the first personal pronoun. He is simply the extension of his general and though he may,

and frequently does, give directions on his own initiative he must never do so ostentatiously. The sight of a bumptious staff major airing his views to a general of a division is one of the most nauseating of spectacles. The animosity such parlance engenders may be most harmful to the smooth workings of the military machine.

(d) Staff officers must be most cautious of criticizing others or to showing too much admiration for their friends in front of their general. To be efficient and loyal they must act as the eyes and ears of their chief. In reporting occurrences to him they must stick absolutely to facts, unadorned by embellishments, sympathy, or enthusiasm. They must not be tale bearers.

(e) The following pun always elicited great applause in the World War, "If bread is the staff of life, what is the life of the staff? One long loaf." Bearing this attitude in mind on the part of the soldier, staff officers should constantly visit the troops to keep in first hand touch with the situation. This recommendation will be endorsed by all officers, staff and line, of experience, but such is the peculiar and insidious influence of possessing a desk that it will be as it has been, more known for its violation than for its performance. The presence of staff officers in the field has both a real and a psychological influence. The information so gained is reliable, the difficulties of the soldier are realized, and the actual sight of the staff officer makes the soldier more trustful of him. The staff officer is the servant of the line. He must be capable of the utmost labor, he must see everything for himself and then while others rest, he must translate the information, gained by his eyes, into orders by his brain. This task ought to be more the willingly performed since, though the hours of work for the staff are longer, the surroundings of that work are more pleasant.

#### THE CHIEF OF STAFF

In discussing the duties and responsibilities of the heads of the several branches of the general and administrative staffs and of the supply departments we shall treat the matter in a very general form and endeavor to use such terminology as will make the subject comprehensible to the nonmilitary reader.

The general staff should relieve the Commanding General of all vexing details in the planning of any subject.

The chief of staff, as the name indicates, is the head of this body and the one through whom the general deals with everyone else. The decisions made by the general are placed in the hands of the chief of staff to be worked out. To carry out this work, the chief of staff has his assistants grouped into several sections so that there may be a division of labor and responsibility.

The chief of staff may then be likened to the general manager of a business.

His relations with his general must be so intimate that he is at all times fully conversant with the latter's plans and ideas and in all matters of routine he should be able to carry forward the policy of his chief without special instructions. Only in matters of the most momentous importance should it be necessary for him to consult the general. In order that the general should be conversant with the conduct of his policies and the successes or difficulties attendant upon them, the chief of staff should make notes of all of his daily transactions and once a day in a period of only a few minutes, place the general "au courant" with the situation. This will serve a further purpose of heightening the confidence of the general in his chief of staff by letting him see that the latter is actually adhering to the policies outlined.

To fulfill his functions, the chief of staff must see to it that the several subordinate heads of the staff are working in harmony and without duplication of effort for the attainment of the common end.

This is best accomplished by calling all of the lesser chiefs of staff to his office daily or at stated periods and having each one, in the presence of the others, go over his present activities and probable future needs.

Such conferences are most beneficial. Without them each subordinate chief of staff is apt to become engrossed in his own special function and fail to consider their bearing on the whole. Such conferences will be advantageous in showing to each member of the staff the difficulties under which his colleague is working. It is only in the light of such common discussion that all of the tribulations of the several branches will become known, and through the chief, to the commanding general.

As has been already noted, the practice of staffs messing together is well adapted to a further dissemination of general information about their several duties.

In the exercise of his function as coordinator, the chief of staff must often act with repression upon many brilliant schemes, excellent in themselves, but not well balanced when viewed from his general point of vantage. In the execution of this necessary function, the chief of staff must guard against the habit of becoming too repressive. The habit of constant negation is an insidious disease and if allowed to flourish unhindered, it may do more harm than good.

The chief of staff is often referred to as the "neck of the bottle." This characterization of his functions is incorrect, since the neck of a bottle may become choked and restrictive. He is in reality more like the control point of a railroad with the means of either retarding or of expediting trains of action.

Another thing which the broad view of the chief of staff should lead him to guard against is the accumulation by himself or by his subordinates of a large retinue of assistants. The flock of assistants which will collect around a staff in a few months is awful, and wonderful, and unnecessary.

This fungus growth is caused by the natural laziness of man and by the foolish desire of young officers to become "Nth" assistant, "G something or another." The number of assistants should be strictly limited to just enough to enable the chief of staff and each of his assistant chiefs of staff to leave their offices at times to make personal inspections of the troops.

With a chief of staff who properly fulfills his functions, the commanding general should be required to spend a minimum of time in his office and hence, he should have much leisure time to personally inspect and supervise the training and marching of his soldiers. It is only by such personal contact that he may instill confidence and devotion in them, thereby fulfilling his duties as a General Officer.

There is probably no more pleasant, or difficult position in the army than that of chief of staff, nor one which requires more training and knowledge of all phases of the military profession.

## ASSISTANT CHIEF OF STAFF — G1

G1 is head of that branch of the general staff charged with all administrative works. He handles by far the greatest volume of business of any assistant chief of staff. His work is never done. Fighting or resting he must always be on the job. By way of compensation he is given the most powerful machinery of any staff assistant for the performance of his duties; namely, all of the technical and administrative services. All of these services are strongly organized; commanded by men who are specialists in their respective lines of work; and equipped with all of the special machinery for the execution of their tasks. G1 will not fail in his duties if he knows how, and is able, to direct the means at his disposal. The machinery will work if G1 can indicate to those who run it the desires of the Commanding General, as transmitted to him by the Chief of Staff. The intimate relation of G1 to the services places him in a position to inform the Chief of Staff exactly what the status is of all the projects in the hands of the administrative branches. He must so inform the Chief of Staff as well of the good, as of the bad, so that the latter may correct or remedy defects, in the whole organization.

G1, due to the fact of his association with the chief of staff and other members of the general staff, is so situated that he can coordinate the efforts of the several administrative and technical branches. He alone in his section knows all of the plans and can see when work of relatively small importance is being over stressed by one department while more important matters, in the light of the general situation are being neglected.

He must see to it that the work of different departments do not overlap. To revert to a business illustration, G1 is a sort of a foreman. The heads of the services are the bosses of the different gangs of laborers or mechanics.

In executing his functions, G1 must always remember that he is not a service. He should tell them what to do and see that they do it; but he must not tell them how to do their work.

The services also must look to G1 for information as to their future requirements. They are so engrossed with the technique of their present difficult operations that they have neither the time nor the general grasp of the situation to plan for the future. In order to fulfill this part of his task, G1 must be on the most intimate relations with G3, who plans operations. It is only by knowing in ample time what is likely to happen that G1 can tell the services in what particular way they should prepare.

G1 must never forget his relationship to the troops. The services are created to serve the troops. Battles are won by troops, not by the services. It is the duty of G1 to see that the troops are served. He must not only watch and coordinate the working of the machinery, he must also inspect the finished product. To see that the troops are served, G1 must make frequent personal inspections. Just before an operation, such as a maneuver or a battle, G1 must, after consulting the field order, draft the complimentary administrative order covering the many points not absolutely tactical which the operation entails. Among the many, we cite the following few as illustrations.

Entraining points; assignment of extra transportation, rail heads and regulations concerning them, refilling and distributing points, plans for evacuation, sick and wounded, remounts, etc., etc.

Specifically, G1 of a division has responsibility for the following items.

## SUPPLIES

The procurement and issuance of supplies should be as nearly automatic as possible. To enable G1 to exercise the necessary control all requisitions should pass through his office to be authorized. The delivery is handled by the services. In the case of special supplies to be kept on hand, G1 should indicate the amount, and how the troops are to be served with them.

## TRANSPORTATION

All transportation in a command is under the control of G1 through the Motor Transport Corps. In cases that require transportation, G1 gives the amount.

## CONSTRUCTION

G1 must foresee all construction and provide much of it. It makes heavy demands on labor, which is scarce. He must guard against useless construction and coordinate that which is allowed. The responsibility for the actual construction belongs to the Engineers but they cannot do all of the work. G1 must specify what they are to do and provide for the rest of it himself.

## LOCATION OF ESTABLISHMENTS

G1 must ascertain what permanent constructions are necessary and see to it that they are well located to give the maximum advantage to the greatest number of troops.

## LABOR

G1 must see to it that the minimum amount is required of the troops and that what is required is efficiently executed.

## EVACUATION, SICK, AND WOUNDED

The plans for this should be worked out by the Chief Surgeon; G1 is responsible for seeing to it that the plans are workable and being well carried out.

## TRAFFIC

G1 is in charge of all traffic within his area. he must see to it that the rules are obeyed, that the military police are properly placed and instructed, and that traffic maps are made and distributed.

## SALVAGE

G1 is responsible for the economical operation of the salvage department.

## POSTAL SERVICE

G1 must give every assistance to the postal service in the execution of it's duties.

## REQUISITIONS

The several services prepare their own requisitions, often on information of future requirements given to them by G1. These requisitions simply pass through his office to enable him to keep check on them.

#### CAPTURED MEN AND MATERIEL

Materiel is handled like salvage. With prisoners, G1 must conform to the wishes of G2. The Adjutant Provost Marshal under G1 works out the details.

#### REPLACEMENT OF MEN AND ANIMALS

The requisitions from units are made out as directed and sent to G1 who consolidates the requisitions and sees to the distribution of the men when they arrive.

#### BILLETTS, BILLETING, OR THE LOCATION OF CAMPS

G1 works out the details of how command is to be installed in an area. He arranges and distributes the maps.

#### PROVOST MARTIAL DUTIES

Through his Adjutant Provost Marshal, the G1 is responsible for the efficiency of the Military Police.

#### COMFORT OF MEN

The G1 assists the charitable institutions in the selection of the scenes of their activities, and helps in construction.

#### DISBURSEMENTS

The Quartermaster handles payments. G1 is only interested when it becomes necessary to make special arrangements for the payment of the men.

#### CLAIMS

G1 has general supervision of the justice of claims and of the punishment of offenders.

#### BURIAL

This is handled by the service of supply. G1 usually has to issue the necessary instructions to the troops to see that the dead are promptly buried.

Surprisingly, in spite of the imposing facts outlined above, there are many men who have successfully been G1. Those who think that the "Life of the staff is one long loaf," should pay particular attention to the above outline.

#### ASSISTANT CHIEF OF STAFF — G2

G2 is the head of that branch of the general staff charged with the collection and dissemination of information. In the staff of an expeditionary force or an army, the duties of G2 have four distinct ramifications; (a) intelligence, (b) secret service, largely occupied with the suppression and apprehension of spies, (c) topography, charged with the construction of maps, and (d) censorship. Here we will deal with the duties of a G2 of division level whose functions embrace chiefly the first of the above, intelligence. But, it is to be remembered that our G2 will get certain amounts of information from the secret service and censorship reports at G.H.Q., and a majority of his maps from the same source.

G2 of the division must not only be prepared to answer questions. He must also be prepared to force information on unwilling recipients concerning an infinity of subjects such as the following. What is the enemy going to do? How is he going to attack? What is his strength? What is the morale of the enemy in front of us? How many rifles are there per yard of front? Is he entrenched? If so, how much wire is there? What is the gauge of the railroad behind the lines? What are the bridges made of? Are they in repair? Where is his railhead? What is the condition of the roads behind his lines? Has he many machine guns? Where are his airfields, etc., etc.

Among the sources from which he gets answers to the above questions may be mentioned a few as follows. Intelligence summaries from corps and army; prewar study and reports; Books of travel; The encyclopedia; Statements of deserters, refugees, or prisoners; captured papers, letters, post cards, telegrams, photographs; reports of spies; airplane photographs; intercepted radio messages; reports of patrols; insignia of prisoners; reports from adjoining divisions; and reports from independent cavalry. The G2 must sift through the information from all of these sources, checking one item against another and discarding the useless information.

As has been said, he must not only be able to answer the chief of staff's questions, he must also arrange for the essential information to be sent to the battalions, regiments, and brigades of the division. He must remember that he is not a historian. He is a journalist. His information must be up to the minute or it will be too old. This will particularly be the case in wars of a less stabilized character than the World War.

The relation between G2 and G3 operations must be most intimate. In making his original plan, G3 must be guided by the possibilities of the situation as told to him by G2. For example, it would be useless to plan the most splendid cavalry raid in country which G2 knows to be waterless.

As the plan is developed, G2 must always know of it so that he can get special advanced information on important points that will come up.

During the battle, G2 must make special arrangements with a view of maintaining contact and information lines in the event of the enemy's retreating. Failure to do this has caused many a bloody victory to be barren of results.

G2 and G3 must work well together, especially in the matter of prisoners. These valuable sources of information must be placed at the disposal of G2 whenever and wherever he elects. G1 and G3 must assist G2 in efforts to prevent souvenir hunters from stripping valuable information material, such as collar ornaments, buttons, letters, gas masks, etc., from prisoners. The neglect of orders forbidding this mania has caused priceless information to be long delayed or lost altogether.

During moments of peace, G2 should be given every facility to educate specialists in the means of securing information. To conclude, too much attention cannot be given to assisting G2 and heeding G2's advice. When G2 is without information, intelligent maneuver is impossible.

### ASSISTANT CHIEF OF STAFF — G3

G3 is the head of that branch of the general staff charged with operations. It is G3 who works out the details of the operation, that is, gives coherent shape to the plan initiated by the Commanding General.

He occupies himself with explorative studies into future tentative operations. He must have the relative advantages and disadvantages of many speculative plans well within his grasp so that if called upon he may discuss their several merits with either the general or the chief of staff.

In peace, or during lulls in the campaign, it is chiefly these preparatory studies which occupy the time of G3.

In active operations he is charged (as has been stated) with the construction and coordination of the field order.

To insure that his plans and orders shall be based on sound premises, he must keep on the most intimate relations with G2. This will insure his obtaining of correct initial information and of thereafter constantly amplifying and qualifying it with the current information secured by G2

For example, it would be foolish to plan an operation based on the assumption that the hostile forces opposite our forces was a division, if G2 had information to the effect that they were actually a corps.

Conversely, G2 should get advanced information of proposed movements so that he will be able to bend his researches in the proper direction.

The same principle applies in the relations between G3 and G1. The latter telling G3 how the state of supply modifies his plans and G3 telling G1 what his plans will be and how the supply problem will have to be worked to meet them. For example, ruin would result if the essence of G3's plan hinged on the movement of a brigade by truck and at the last moment G1 hearing of it should say that there were no trucks available. Proper understanding would either have allowed G3 to know from the beginning that there were no trucks available or else early information as to the necessity of trucks would have enabled G1 to have obtained them.

The vast amount of detail as to supply of rations, transportation, material, munitions, etc., which are entailed, cannot be covered in a field order which is purely tactical, yet they must be covered. This is done by G1, who, having seen the field order, gets up an administrative order to supplement it in non-tactical details.

During the actual course of battle, G3 is responsible for the maintenance of means of communication. He must see to it that all means work efficiently to obtain the objective, which is that his general gets all reports and orders destined for him promptly, correctly, and also that all of his orders are transmitted as rapidly and accurately as possible to his subordinates. This task is one



of vast importance and upon its efficient execution depends the result of the battle. Without good communication with its chief, a unit is like a rudderless ship.

#### ASSISTANT CHIEF OF STAFF — G4

This officer is present only in Corps, Armies, and Groups of Armies; or General Headquarters. In such units he is the head of that branch of the general staff which takes over from G1 the functions of regulation and coordination in the procurement and distribution of supplies. The reason being that in the higher units functions assume such proportions as to be beyond the capabilities of the single G1 section.

#### ASSISTANT CHIEF OF STAFF — G5

G5 is also confined to the above mentioned higher units. In the general staffs of such, the G5 section is responsible for the direction of troop training along the prescribed lines and for the coordination of instruction in the several arms. He advises the general of any changes in tactics which seem essential and supervises, by inspection, the training of the command.

#### THE ADJUTANT GENERAL

The adjutant general is the head of that section of the staff responsible for the issuance and authentication of orders. The department is also charged with the responsibility for all matters of record, including personnel, and the distribution of replacements in personnel.

#### HEADS OF THE ADMINISTRATIVE DEPARTMENTS

Under this we have:

The QUARTERMASTER DEPARTMENT, charged with all matters pertaining to the providing and issuing of food, clothing, remounts, and a large part of the equipment used.

The ORDNANCE DEPARTMENT, charged with the procurement and issuing of arms and ammunition.

The ENGINEER DEPARTMENT, charged with the special construction and maintenance problems of that department. The chief engineer is usually in command of the engineer troops and advises on engineer constructions, water supply, etc.

The MEDICAL DEPARTMENT. (Self explanatory).

The ADJUTANT PROVOST MARSHAL, charged with Military Police and road control.

The MOTOR TRANSPORT CORPS, responsible for Motor Transport.

All of these together, with some subdivisions of them, such as the Graves Registration under the Quartermaster, are all coordinated under G1 as has been explained.

#### ADVISORY STAFF OFFICERS

Under this class are officers from technical branches and auxiliary arms who are attached to staffs in addition to the general staff and the administrative staffs.

In addition to giving advice on the special features of their several arms or departments, they also command the troops of these arms, at least in corps and division. In armies and groups of armies, they are purely advisory.

Under this heading come the following:

Chief signal officer, maintenance, construction, and operation of means of communication. Chief of the air service. Chief of the tank corps, if attached. Chief of chemical warfare department. Chaplain, charged with fighting the Devil (usually unsuccessfully).

## CHAPTER IV

### General Officers

A junior officer who undertakes to discourse upon the essential qualifications for his superiors is apt to be the object of unkind remarks so we hasten to disclaim either originality or a desire to criticize. The following is merely an attempt to define what has appeared to us to be the leading characteristics (in varying degrees and combinations) of American Generals with whom we have had the honor to be associated.

In the military world, as in all others, first impressions are of vast importance. Perhaps this is particularly true in regard to generals because due to the size of their commands, the individual soldier does not often see nor come in contact with his commanding general.

For this reason it is essential that a general have a soldierly bearing and typify in his person, as well as possess in his mind, the highest qualities of a soldier. Such a presence goes very far towards winning the confidence and respect of the men and the example of a soldierly appearing general is followed with minute exactness in the appearance of the officers and men of the command.

To this soldierly bearing should be added that indescribable something which we call **PERSONAL MAGNETISM**. Men admired Wellington, but they worshipped Lee.

Tact is another essential feature in the personality of a general. To insure efficiency his will must be absolute. To make absolutism more tolerable, tact is essential. By tact we do not mean that cheap and disgusting fawning on the men practiced by some, to their own ruin, for the men are the first to perceive and ridicule such procedure. Men of high type, and confident of their ability to command, can afford to unbend occasionally to the soldiers and to give even a reprimand in a way to excite willing, rather than grudging obedience.

Finally, in concluding the sum of outward characteristics essential to the general, we will name "impartial justice." Happily, this characteristic is a tradition in our service, but we venture the belief that if a man is capable of becoming a general and yet he is lacking in justice, his other virtues would be useless. Equality of treatment, no matter how harsh, is demanded by all soldiers and is prized by them above rubies.

The foregoing sums up the general as we believe he should appear to his men. The following comprises a list of personal characteristics of a less conspicuous nature, but equally essential.

The general who in some hour of trial will be charged with his nation's honor must be actuated by the highest ideals as to life, patriotism, and duty. He who is charged with kindling and maintaining in the breasts of many thousands of young men the flame of lofty purpose, high courage, and patriotism must, himself, possess these vital essentials in the most developed form. Only these virtues will support him on the day when stress, disappointment, fatigue, and

death, sure someday to overtake every leader, overtake him. A military writer has said, "When disaster, exhaustion, and war weariness has sapped the strength and quenched the ardor and love of glory of the troops, there only remains the unconquerable will of the commander. If he fails to rekindle the fires of patriotism and high ideals, all is indeed lost."

In the words of NAPIER, "No man can be called a great Captain who does not know how to organize and form the character of an army as well as to lead it."

So also, the nature of a general must rise above the mere companionship of responsibility. His position requires him to accept and to pursue responsibility; regardless of the talk of carping critics, he must shoulder his burden of care and, confident in the knowledge of his own straight dealing, he must leave his reputation to the unprejudiced verdict of history.

However, in this acceptance of responsibility he must not go so far as to shut his mind to advice. His responsibility in any subject begins only when his decision is reached. It behooves him then to take well considered action and it is no sign of weakness in a general to listen to advice. However bad it may be, it may still serve to throw some light on a subject. His final decision, as his final responsibility, is for him alone. It is not to be taken by a vote of advisers like a club election. CLIVE said that he had only called one council of war and, fortunately, had not abided by its decision.

The general must have the utmost fixity of purpose. Once he has decided, he must stick irrevocably to his decision. The ability to adhere to a policy is the corollary to that SIMPLICITY in military operations which is the key to success. General T. J. Jackson said, "Duty is ours, consequences are God's," and at Chancellorsville when, while making his great march across the union front, the wagons at the rear of his column were attacked he never even turned his head. He had decided to complete the march and did, with well known results.

In closing the recital of military characteristics essential to generals, we shall name three more and venture to say that possessing all others, but lacking these, no man will be very great as a general.

They are:

Health which will withstand the rigors of fatigue and nervous exhaustion so that the mind will always work equally as well as the body.

A desire to fight, for, "The destruction of the armed forces of the enemy is the only means of gaining the ends of war." Or as Sheridan is said to have phrased it, "The trouble with the commanders of the Army of the Potomac was, they never marched out to lick anybody. All they thought of was how to escape being licked themselves."

A trained military mind soaked with the theory and practice of war by daily study and environment so that no matter what the circumstances, the mind will think in a military manner automatically.

Some friends who read the above specifications for generals said, "But such men are not born." We agree with them. Generals are made, by themselves.

We base this belief on the observation of the general who led the armies in Europe, and his assistants here and there. These officers it seems to us, do possess all, or nearly all, of the above virtues and they acquired them, not at birth, but by a life of ceaseless effort at the military profession.

## CHAPTER V

### War

In the following discussion we are not concerned with the causes of war for these are provided by statesmen. They are always just, as the German Balck cynically remarks, "No state can dispense with an appearance of justice because of its great moral support." Despite this cynicism it is undoubtedly true, that from the time Paris stole Helen, to the time William tried to steal the world, the peoples at issue have believed implicitly in the justice of their cause. Nothing but this inherent idea of the justice of their cause can explain the sacrifices made throughout the ages by all peoples. The fact that half of these assumptions must have been wrong in order to have the other half in the right in no way detracts from the fact.

With the causes then we are not concerned. So far we have been right ethically to our own conscience and in actuality as has been proven by the successful terminations of our wars. Our duty as patriots is uneffected even supposing the possibility of our being wrong, for, to again quote the sublime words of Decatur, "Our country may she ever be right, but right or wrong our country." The advancement of our country must be our aim whenever the God of Battles shall again see fit to call us to the dreadful arbitrament of war.

"The destruction of the armed forces of the enemy is the only means of gaining the ends of war, Victory." (Clausewitz)

"Victory," says Napoleon, "is ever on the side of the big battalions." Though he admits that in battles and even in campaigns the lesser side may win, he maintains that in wars, numbers decide. Though it is hardly necessary to reinforce his statements on war, history gives constant and ample additional proof. Bigness of battalions or resources is of no value unless military preparedness makes available the potential strength of numbers and resources, for as Napier says, "Military virtue is not the growth of a day, nor is there any nation so rich and populous, that despising it, can rest secure." Washington, speaking to Congress on August 20, 1780, deprecates our lack of organized resources in part as follows, "we should not have been for the greater part of the war inferior to the enemy; indebted for our safety to their inactivity; enduring frequently the mortification of seeing inviting opportunities to ruin them pass unimproved for want of a force which the country was completely able to afford; of seeing the country ravaged, our towns burned, the inhabitants plundered, abused, murdered, with impunity for the (same) cause."

Speaking to the same body a month later he goes on in the same strain as follows, "Regular troops alone are equal to the exigencies of modern war, as well for defense as for offense, and whenever substitutes are attempted it must prove illusory and ruinous. No militia will ever acquire the habits necessary to resist a regular force. The firmness requisite for the real business of fighting is only to be obtained by a constant course of discipline and service. I have never yet been witness of a single instance which can justify a difference of opinion, and it is most earnestly to be wished that the liberties of America may no longer be trusted, in any material degree, to so precarious a dependence."

One hundred and thirty nine years later, Marshal Haig in his "Features of the War" says of lack of preparedness, "We were deficient in both trained men and materials, and what was more important, had no machinery ready with which either men or materials could be produced in anything approaching the requisite quantities. The result being; firstly, the necessary machinery had to be improvised hurriedly, and improvisation is never economical and seldom satisfactory. In this case the high-water mark of our fighting strength in infantry was only reached after two and a half years of conflict, by which time, heavy casualties had already been incurred. In consequence, the full manpower of the Empire was never developed in the field at any period of the war." Slightly further on, in the same account he says, "The margin by which the German onrush in 1914 was stemmed was so narrow and the subsequent struggle so severe that the word MIRACULOUS is hardly too strong a term to describe the recovery and subsequent victory of the Allies."

We have quoted these great men at length to show that the demands for preparedness are neither new nor are they the platitudes of "would be militarists," nor are the words of Washington about Militia any less true today than in 1780. The gallant regiments of national and territorial guardsmen who fought so well in France were not militia. They had a year or more of constant service. But those same organizations were no better fitted to move from the armories to the battlefield than were their forebears of continental times, because then, as now, they lack the "constant course of discipline and service" which only universal service can give to a sufficient number of men to develop full manpower of the nation at the crucial time, the beginning of a war. If we take two and a half years or even one year to do this we shall again see, "Our towns burned, our inhabitants plundered, abused and murdered with impunity." Again we shall pay ten fold for unsatisfactory improvisations. Will "Miraculous" again describe the result? Miracles are slender props on which to build the future of the greatest nation in history. Will historians in after ages point to us and say, "Behold the parable of the two houses, behold the mighty ruin which reared it's towering majesty on the sand foundation of unpreparedness."

## CHAPTER VI

### General Combat Principles

In spite of the kaleidoscopic changes in the outward semblance of war, it in fact remains the same in principle. These principles are, have been, and forever shall be the following:

First; getting the largest force of the right sort to the right place at the right time. We must, however, be careful in our definition of force. It is not of necessity numbers. The essentials, of force, are best realized if we view it from the standpoint of the enemy. Force as he sees it, is something which causes his men in front of the points of application to recede. This recession of the enemy may and usually will be, first caused by fire. But, since man is an animal and battle

makes him more so, the ultimate force he recognizes is the same which frightened him as an ape, namely numbers of his savage appearing fellows attacking him.

We thus arrive at the general statement that force in the form of fire, must so discomfort opposing forces in the same form that it gives back and that this recession must be followed by numerical force, killing and bluffing other opposing numerical force. On this assumption it is clearly evident that our initial fire must be so accurate as to find and overcome the fire force of our enemy. In other words, inaccurate fire of whatever nature is not force. It is noise; useless and impotent.

Indirect fire, as evolved and developed, aids and hinders us in the application of our initial fire force. When we begin an action, our indirect fire (our hidden force) sweeps away the hidden fire force of the enemy because since we have taken the initiative it is fair to presume that we are the latest to hide our guns while our air service should have fairly well informed us of the hidden guns of the enemy so far as his front positions are concerned. But here, concealment, like a fickle jade, abandons the offensive and flies to the embraces of the defender. Our moving force in fire and flesh advances over the enemy's front positions but in his back positions we are met by concealed fire beyond the range of our own concealed fire and we must also overcome this force before we can get to the place where we may overrun the enemy by a display of stone age brawn.

In trench war the solution to this difficulty was usually sought by the use of limited objectives. Such attacks failed because the undisturbed, concealed fire in the back area was superior to ours and we were slaughtered while consolidating. This form of attack failed also because limited objectives disregard psychology in omitting the ultimate threat of stone age brawn.

Later success in attack was sought by augmenting the moving fire of the assailant with artillery, machine guns, and trench mortars. The results were successful to a degree and more miles were added to the penetration. But always hidden fire force in the form of artillery concentration stopped the assailant. What has been just referred to, took place in a war of continuous lines, where it was impossible to send through cavalry to stop the artillery concentration. In wars without such flankless lines penetrations or encircling movements by cavalry and tanks will, I believe, be sufficient to break up to a large degree, the great gun concentrations and thus permit moving fire and force to gain decisive results.

Admitting this last assumption correct, we must study how to apply first our initial concealed fire force, second our moving fire force, and third, the "beef" (stone age brawn). The first requisite depends almost entirely on judicious choice of the location of attack; on speed and on secrecy of organization. The prerequisites for these are intelligence in the High Command, discipline, and organization, all of a high order but none difficult of attainment as they follow simple principles. The essentials to the second requisite, namely the progression of moving fire and force, are more complex. Since this force must move, it must be light and therefore weaker in total than the force it must overcome. Still it must be stronger at some points than it's enemy or it would never advance. Therefore upon the junior leaders and the men who constitute the brains of this moving fire depends the ominous job of progression. They must be so trained that they can pick the points where they must be strong and having picked them they must tenaciously and heroically strive to get their strength into effective position. In other words, force which mile for mile of front is the weaker must by intelligent grouping and effective tactics be stronger at the key points. Success then chiefly depends upon effective fire, well placed.

The efficacy of fire depends on the training of the individual soldier in the use of his weapon. He must have such knowledge of it that he trusts it implicitly. He must be so trained in courage that he has the will to put his beloved weapon to work despite risk. This training requires time, tradition, and patriotism. All this must be instilled in the soldier.

The above requirements for the men are not easy of realization, but they are much easier than the training of the leaders, for these latter must see that the firepower at their disposal is properly applied so that weaker firepower shall do more killing at the proper place. Assuming that the location for attack has been judiciously chosen and the wheels of the supply system in men and material well oiled, the Higher Command has done its job and however much it may sweat, it is powerless to influence the action of the front line platoons. Yet on these front lines the difficulty of the struggle rests. On the decision and courage of a "boy lieutenant" hangs the success or failure of the General's plan. It has just been said that during battle the general is powerless to direct this boy. He is, however, none the less responsible, for he should have trained his lieutenants to do the right thing, so that they cannot do the wrong thing. This training must have been so thorough that the lieutenants do not do right as a result of lucid reason carried on under fire behind a wall, but as a result of HABIT.

First in importance of these vital habits comes the automatic instinct of forward movement. By constant reiteration, the mind of the fighting officer must be schooled to think only of progression. The thought of retreat or of holding must be wiped from their intelligence. Men who think only of going on, will be victorious or killed. They will be victorious more often than killed. In the words of a British officer, "To hell with discretion; there is too damn much of it." Here, however, more habit must intervene; heroic "bulling into it" while it would be successful would make the blood tax of a long war excessive. In addition to the desire to go on, there must be a habitual method of going on. The word habitual or automatic may for a moment shock the sensitive soul which has imbibed a distrust of normal attack with his mother's milk. But automatic methods do not mean normal attacks, at least not altogether.

Platoons and other units are always held up by superior effective fire from artillery, machine guns, or rifles directed from the front or flank. They progress by directing more fire from their own weapon at this opposition from the front or flank. To do this they must get more weapons capable of fire to bear on the opposition. They do this by supports and maneuver. By incessant practice against other troops at maneuver, battle leaders must be habituated to do these two things and these two things are always done alike, though never in the same way. They must maneuver and move many times until it is a habit and not mental process. It is the failure to do something offensive instantly, whether right or wrong, that has lost more battles than any other one fault. This failure is due to just two things; lack of courage and lack of habit.

What a platoon leader does under fire must be the result of instinct. Instinct is the result of often repeated training and everlasting maneuver where he is always allowed to be successful.

The beautiful thoughts which come to us under the influence of tobacco and in a swivel chair and which prove that had Lieutenant John Smith moved his automatic rifles forward on his left flank instead of his right, he would have ousted the enemy in a more scientific manner, are futile. The fact is that Lieutenant John Smith, cold and hungry, moved his automatic rifles at once. Even if it was the wrong flank he thereby none the less ousted the enemy. Perhaps he lost more men by his automatic maneuver, but he succeeded. Had he tried to reason, his tired, scared brain would have blundered and even had he eventually guessed correctly, the time he took in doing so would have

caused more casualties and possibly resulted in defeat. A few unnecessary lines have been devoted to Lieutenant John Smith because usually, he is neglected. He is supposed to grow. This supposition is utterly wrong and usually results in his moldering in a grave with many of his men.

The same reflex action demanded of a lieutenant must be demanded of a captain and likewise of a major, though perhaps he may have an opportunity to reason a little. The colonel may reason more if it does not keep him from acting and the same applies to include the Division Commander. But all of those gentlemen must know that first requisite of the platoon leader, the instinctive will to go on.

The winning of a battle is like the climbing of a ladder. You never get to the top until you have surmounted all of the rungs between there and the ground. If you use all of your men and you, yourself, are killed gaining the first rung, you have done your duty. If you save two thirds of your men to say nothing of yourself and have failed to gain the first rung, you have failed utterly.

Victory will come only through the WILL TO CONQUER.

The WILL TO CONQUER must be applied in battle automatically and relentlessly.



## WHAT THE WORLD WAR DID FOR CAVALRY

By Major George S. Patton, Jr.,  
Third Cavalry

The Cavalry Journal  
April 1922

Although much progress has been made since our ideas of the tactics of dismounted action were epitomized in the command "To fight on foot," we are still very far from being proficient in the art of handling men in the presence of the enemy.

Colonel Sir Thomas Cunningham, while an instructor at the A.E.F. Staff College said in a lecture that, "The characteristic of war is it's constant change of characteristic." An incessant change of means to attain unalterable ends is always going on; we must take care not to let these sundry means loom with undue eminence in the perspective of our minds; for, since the beginning, there has been an unending cycle of them, and for each it's advocates have claimed adoption as the sole solution of successful war. Yet, the record of all history shows that the unchanging end has been, is, and probably ever will be this: predominant force of the right sort, at the right place, at the right time; or, as Forrest is credited with putting it, "Getting there fustest with the mostest men."

Predominant force has been effected by the phalanx of Greece, the legions of Rome, the columns of Napoleon, by walls and ditches, wire and machine guns, artillery and tanks, and countless other means, successful or not, according as they were applied at the right place at the critical moment.

We, as subordinates, have little choice in the selection of our force. So far as it is concerned, our chief responsibility rests in conserving it's magnitude by avoiding dispersion and waste. But, we are deeply interested with the place and time of it's application. A mistake of yards or minutes in these respects may blight our career and butcher our men. Hence, the vital necessity of mastering, in as complete a manner as possible, the mechanism of it's application orders, maps, and tactics.

While I do not hold with those who consider the World War as the sealed pattern of all future efforts to maintain peace, it is, nevertheless, our most recent source of information, and the tactical tendencies shown will most certainly color to a considerable degree our initial efforts in the next war.

As soon as the first battle of the Marne was won, the World War became a special case, due principally, in my opinion, to two reasons; Fixed flanks, which prevented maneuver, and the splendid rail and road net on both sides, which permitted a very heavy concentration and a relatively easy ammunition supply. Without these good roads and short hauls, it would have been impossible to have fed and supplied the vast armies, and the war would have taken a different course.

Predominant force, after the Marne, first appeared in the well sited and constructed German trenches. This was countered by increased expenditure of artillery ammunition. The single line was pierced only to again have force desert the guns and appear in concentrated reserves for the counter attack. More and heavier guns adjusted the balance, only to again have it disrupted by the defense in depth with machine guns. This was answered by the tank and countered by more elastic defense, with greater depth, and we were back, almost, to pre-Marne conditions of open warfare;

but with many more and complicated engines of destruction and excessive potentialities in guns, ammunition, airplanes, and accurate intelligence, excessive, that is, in comparison with other possible theaters of war, and all due to the roads.

So much for a hurried survey of what has occurred. Now, to safeguard our perspective of the relative importance of these happenings, let us analyze certain features which are bound to crop up in the future with undue emphasis, since they have been grasped by the popular mind and have filled the writings of many thoughtless critics and historians, both civil and military.

The restricted area, long deadlock, and vast resources permitted the employment of masses of guns and ammunition which probably, during our lifetime, cannot be duplicated, certainly not in any other theater of operations. The great results, apparent and real, accomplished by these guns has so impressed the majority of people that they talk of future wars as gun wars. To me, all that is necessary to dispel such dreams, or at least limit their sites to western Europe, is a ten mile drive along country roads in any State of the Union, except, perhaps, a favored half dozen along it's coast.

Tactics based on a crushing artillery are, then, impossible except in one place. But, even where roads permit it's use in mass, the effect of artillery alone is negative, so far as offensive victory is concerned. Sufficient shells concentrated at the right time and place will, as at Rheims, stop any attack; but all the artillery ever built cannot defeat any enemy unaided; for that the personal touch of the infantry (with the bayonet) is needed.

The guns are the greatest auxiliary, but only that. Infantry without them cannot beat infantry with them. The great range of the present gun has helped both the attack and the defense by making concentrations of great density possible at widely different places from the same gun positions. The same increased range has made it possible to place the artillery in depth, which in turn has made turning movements less deadly and more expensive.

Still, guns in moderation or in excess will not win a war. And the more open the war, the more uncivilized the country where it is fought, the less will they affect the issue; for in war of movement there will be less guns, less time to bring up ammunition, less time to hide batteries. Airplanes will locate them more easily, and they will have to use most of their limited ammunition supply shooting at each other and less of it shooting infantry. Get all the guns you can, and then steal or otherwise procure all the shells possible, but don't deceive yourselves with fancied zero hours and barrages.

Another feature resulting from the war, and which also has left it's mark, is the evolution of the SPECIALIST.

His birth is the result of an unholy union between trench warfare and quick training. Fighting in trenches was more or less stereotyped. Men apt at bombing, shooting rifle grenades, using automatic rifles, etc., had time and opportunity to ride their hobbies. Further, it was easier and quicker to make a good grenade thrower than a good soldier. Time pressed, and one-sided men were evolved who knew little and cared less for anything but their one death dealing stunt.

But the evil did not stop here. These one idea gentry could be more quickly produced by instructors of a like ilk. These instructors and their pupils assembled in schools, with the result that unit commanders did not train their men and did not learn to know them. Leadership suffered, and,

as one drink leads to another, so the evil grew. The only way to fight such collections of specialists was to devise “set piece” attacks, where each did his little stunt in his little way. This made more necessary voluminous orders defining in detail the littlest operation, and in consequence taking all initiative from the fighting officers. All that was left to them was to set heroic examples; and this they did.

So long as the specialists could ply their sundry trades behind the barrage and scavenge in the wake of the shells, they were efficient; but when they either lost the barrage or progressed beyond the range of the guns, they were lost. Untutored courage was useless in the face of educated bullets. When the barrage was gone, officers and men felt naked and at a loss. They had no confidence in the rifle which they had never used for confidence is the result of habit. Fire and movement, as taught by the Field Service Regulations, were forgotten or never learned.

Our own men, thanks to the genius of General Pershing, were less troubled by the specialist disease than were our allies; but, due to lack of time, many of ours were not, and could not have been, well-rounded open war soldiers.

The moral of this story of the specialist is this: The combat officer must be the combat instructor of his own men. Not only must he know his own tactics, but he must know how to use the various instruments with which his unit is equipped to ply its trade and he must know each better than any of his men. Further than this, he must have thought and practiced the use of his complicated instrument, so that it plays equally well under his hand the simple one-step of the set piece attack or the complicated tango of the open war fight. He must THINK, TEACH, and PRACTICE the tactics of his arm.

Still another development of the war, and one from which we shall surely hear in the future, was the enthusiast of the special arm — the man who would either bomb, gas, or squash the enemy into oblivion, according to whether he belonged to the Air, Gas, or Tank Service. All of these men, and I was one of them, were right within limits; only they were overconfident of the effectiveness of their favorite weapon. In the future, there will be many more such as these. We must accept all that they say and give them a trial, for some may be right; but, we must not plan our battles on the strength of what they think that they will do until we have more than oral proof.

Whether we or the Germans first realized the futility of trench warfare is open to discussion. In the winter of 1917, German and American infantry practiced open war formations, while the rest of the world still clung to trenches. But, whoever first originated the idea, there is no doubt that the Germans first practiced it. The colossal struggles of 1918 were the result of that training.

First, in Artois, in Flanders, and in the first phase of the 1918 Marne, the mighty German attacks met with great success. Here the time and place of the attacks were not so much a surprise as were the methods used in pressing them.

Next, east of Rheims a similar great attack was a complete failure, and again due to surprise as to method; but this time as to method of defense by the French under Gouraud.

Followed an allied attack south of Soissons, using open war methods, where a complete success was prevented by the fact that the attack was not a surprise.

Then came the British attack with tanks on a limited front at Villers Bretonneux, with complete success as a result of surprise as to method, time, and locality. And finally, our great surprise attack in the Meuse-Argonne.

The outstanding tactical features of all of these great battles were first, open war methods and second, surprise, made possible by secrecy and deception. Notice that all three of these features are as old as war, itself.

In the Rheims battle, prisoners captured the day before gave exact data as to the time and place of launching the attack. The resulting victory was an example of good tactical dispositions combined with peculiarly exact knowledge. The outstanding features of this momentous success were the following: The abandoning of the outpost zone and the filling of the dugouts with mustard gas; the placing of sections of determined infantry along what would have normally been the line of resistance of the outpost zone. These sections were in strong points from 350 to 450 yards apart and were well supplied with machine guns; the S.O.S. barrage was placed to fall both between and beyond the strong points. Finally, the excellent French counter preparation which, due to the prisoners above mentioned, fell in great density at the exact time and place desired. This counter preparation is a fine example of the results obtainable from a mass of guns whose collection was made possible by the European road system.

Little of interest in purely cavalry tactics is at present available as a result of the World War in the west although details of the defense of the Messines sector by Gough's cavalry between the forces of General Haig and General Paltenev in November, 1914, will show splendid cavalry work. Yet, even with the locking of armies in the west and the total absence of flanks, there were chances for cavalry. High authority is of the opinion that the German failure to use their mounted arm at Artois and on the Marne probably cost them, if not decisive, at least great strategic successes.

In Russia and under Allenby, cavalry was as important as ever in its history. In Palestine alone there were seventeen mounted charges against infantry in position, only one of which was a failure.

A general survey of the tactical tendencies at the close of the World War seems to me to point to greater, and not lessened, usefulness and importance for cavalry. The necessity, due to air observation, for most marches of concentration being made at night adds vastly to the destructive power of the mounted man because charges with the saber or pistol or surprise fire by machine rifles will be terribly effective and most difficult to prevent.

True, no such operations took place in the west. This is accounted for by the lack of flanks and by continuous wire. In the Civil War, on the other hand, Mosby operated in this manner against the Union wagon trains with great success and almost complete immunity. That he did not do so against columns of infantry or guns is due to the fact that in the Civil War, marches by these arms at night were seldom necessary and hence not indulged in.

The machine gun and automatic rifle, which at one time we considered so prejudicial to our usefulness, have in fact made us more effective. They give us the firepower dismounted which we lacked before.

Our present effort must be to study using these weapons as pivots of maneuver, that is, to use their fire to pin the enemy to the ground while the mounted elements use their mobility to attack the

flanks or rear of the enemy so held. I do not believe that such encircling attacks will invariably be made mounted, but the use of the horse for speedy transportation will make their prompt and judicious application possible.

In this connection, the cavalryman must be careful to differentiate between his action dismounted and that used by the infantry. The present infantry attack is the most deadly and powerful operation developed in the long school of war but the very immensity of this power makes the speed of its application somewhat slow. To progressively develop its intense firepower and consummate it with the final resort to the steel requires a relatively deep formation. Since the man on foot, unlike the horse, has but one rate of speed, it takes time to get the final rearward elements into action. Further, to secure this depth, great manpower is of necessity required.

The cavalry, on the other hand, both because of its organization and the necessity of caring for its led horses which, due to the menace of enemy airplanes, will almost always have to be kept mobile, cannot develop the manpower necessary for an attack, along infantry lines, on anything like an appropriate front except in very special cases, where great bodies of horsemen are available. Even here only peculiar circumstances of terrain or tactical necessity would justify the cavalry in making a long dismounted attack on the principle that is it foolish to batter down a door if a window is quickly available for entry.

Since the time allowable for our dismounted action will always be short, we must study to gain effect for it by surprise, by an advantageous selection of the direction of attack and by the prompt development of maximum firepower. In other words, we must make our maximum deployment early, start it at short range by the use of cover and mobility, and rush it to a conclusion, holding out only sufficient supports to give the impetus for the final charge.

Clearly, such tactics will be difficult in very open country where distant observation will prevent the employment of the mounted encircling movements on which such an attack is predicated.

These considerations lead to the enunciation of a rather revolutionary theory as to what is GOOD CAVALRY COUNTRY. We have for years been told that open, unfenced pasture land was "ideal cavalry country." I believe that enough has been shown here to prove that such is no longer the case. Closed country, preferably wooded, is what we want for the cavalry. When such conditions permit cavalry to launch its attack close to the enemy, by surprise, it will be hard to stop, mounted or dismounted.

The foregoing remarks might give rise to the opinion that the usefulness of cavalry will be limited by necessity for special country peculiar to its own needs. This would be true were it not for the fact that the increased importance of the airplane will probably make all arms seek similar country. Certainly, open prairies, where every camp, bivouac, and line of supply will be open to the ever growing menace of air bombardment, where every movement will be seen and reported, make it seem probable that future armies will in war, at least, eschew "billiard table" country, however pleasant it may be for bullet-less maneuvers. Speaking generally, cavalry tactics seem to simplify themselves into the following:

(a) Delaying or harassing action against infantry.

To be effected by long range fire of automatic weapons, and offensive by counter attacks by mounted mobility against flanks and rear; these last to be made by day if cover permits and failing such cover, by night.

(b) Attacks against flanks or thinly held sectors.

To be effected by methods similar to (a). It should be noted that in delaying actions by cavalry the essence of success lies in the use of numerous positions for short actions rather than in the strong resistance in favorable localities which the slower rate of infantry makes necessary.

(c) Actions against enemy cavalry, ALWAYS OFFENSIVE.

This is to be effected by the use of the fire of automatic weapons as a point of rest around which the mounted action pivots, the final attack being MOUNTED against the ENEMY if he is also mounted, and against his led horses if he is dismounted. The cavalryman who dismounts in the face of a mounted opponent gives his birthright for a mess of pottage. He sacrifices his mobility to lack of determination and assumes the defensive without hope of crippling his agile enemy.

When mounted action is used in conjunction with fire action, as above, every effort must be made to have the charge at right angles to the direction of fire. The guns must keep in action till the lines meet. This requires good ground observation.

(d) Action against enemy lines of communication.

To be executed mounted and by surprise, effected either by cover or by night.

(e) Actions by patrols.

(f) Actions against strong positions, where either cover or obstacles prevent maneuver.

To be effected dismounted by adopting a formation as near as possible to that used by the infantry; that is, by deploying troops abreast with platoons in column to form the successive waves, and attaching the machine rifles to the rifle platoon. This will absolutely immobilize the troops, but circumstances are possible where such a thing will be necessary. If it occurs, cavalry must show the same heroic determination that infantry does, and close, using the pistol in place of the bayonet.

Against the Turks, troops of the Desert Mounted Corps also attacked strong positions, unwired trenches, and batteries mounted, using covering fire from machine guns and horse artillery to assist their advance. As much as 3000 yards were covered in such attacks. The formation for the advance was line of platoon columns with wide intervals. The troops in each squadron followed one another at 100 yards' distance. The gait during all the war was a trot or gallop, depending on the condition of the horses. In any case, the final closing was at a charge. In the attack against trenches, the first line jumped them and went on against the supports. The second line jumped the trenches and dismounted, turning the horses loose, mopping up the trenches with the saber. The third line assisted. The losses sustained by the mounted men were small and the killed among the enemy with the saber very large. The POINT was used exclusively.

It now remains to discuss the tactics of the mounted charge. To my mind, this is a very simple operation, since tactics, under such circumstances, will be lacking, just as they apparently are in the bayonet charge.

Though the preliminaries to the bayonet charge involves much shooting and crawling and rushing, the charge itself is simply a blind stampede of furious and exhausted men, initiated on the spot by a few brave spirits who start going and are followed pell-mell by the rest. Unless the enemy is so situated that he cannot get away, he departs before the bayonets ever reach him. At least that is how I have pictured it, how I have heard it described, and how I once saw it enacted by about twenty Americans against a group of machine guns.

With the mounted charge there is much searching for cover, much maneuvering for position, some trotting in column; but when the golden moment comes, there will be simply a rush, the faster the better, and unless, as in the case of the bayonet charge, the enemy cannot get away, he will never stop to meet you. His wounded will be punctured in the back.

The bayonet charge and the saber charge are the highest physical demonstration of moral victory. The fierce frenzy of hate and determination flashing from the bloodshot eyes squinting behind the glittering steel is what wins. Get as close as you can to the objective unseen or helped by covering fire. Then CHARGE in line, in column, or in mass. It makes no difference. Such an attack will no more resemble the majestic charge of Murat's horsemen than did the blind rush of the twenty doughboys simulate the advance of the Old Guard at Waterloo. It will generally be conducted by small bodies, platoons, troops, or squadrons. Remember that there is nothing too good for the man who brings off a successful saber charge. Though 16 to 1 was fatal in 1896, Palestine\* proved that it will be the ratio of your success when you give the war cry of the cavalry: "CHARGE SABER!"

*\*According to Colonel Preston (The Desert Mounted Corps), there were 32 successful and two unsuccessful cavalry charges in Palestine.*

## WHY MEN FIGHT

by George S. Patton, Jr.

1927

(A Posthumous Study)

With the causes and effects of war we are not concerned. Its continued existence is inevitable and its results for good or evil are beyond all human power to avert or change.

Our effort here is rather to seek those fundamental emotions which actuate men as individuals to expose themselves to wounds and death; to trace the growth and development of these emotions and finally to investigate how best they may be utilized and stimulated so as to produce in our armies that fighting spirit which will spell victory in the wars which are to come.

Of prehistoric man we know little, and can but opine that in his infancy he was a fairly strong and relatively intelligent, carnivorous animal.

Speaking generally, present day carnivora are not cannibals. Their innocence in this respect, however, is not the result of qualms of conscience, but arises from the fact that aware of their own powers they respect those of their kindred. Yet, since they must eat to live and kill to eat, they destroy for choice beasts less mighty than themselves and only combat their kindred when driven by hunger, first, to wrest from them their prey, and second, in the stress of famine, to devour them for food.

In primitive man then it would, by analogy, seem all but certain that the primary emotion inciting to combat with his fellows was the instinct to survive; — the belly lust.

The next most powerful emotion inducive to fratricidal strife was sex. In its simplest form this incentive has lost its potency so far as civilized soldiers are concerned, but it is beyond question that it still exercises a strong influence among backward peoples, as, for instance, Mexican bandits.

On the other hand, it is clear that some derivatives of the sex emotion still retain the chief place among the inducements to combat.

In tracing these derivations we must begin at the dawning.

The necessity of fighting for the acquisition and possession of his mate gradually awakened in the budding intelligence of man an enhanced notion as to her value. This in the course of ages limited promiscuous breeding and engendered ideas of a permanent family.

To defend his harem, man fought his fellows. While with the increase of permanent ties his roamings were limited; resulting eventually in the establishment of a cave or den home. Long usage developed the idea that his particular hearth was the best of its sort in the neighborhood while conditions of intense cold gave further point to the notion by the necessity they imposed of having permanent and warm sleeping quarters. To defend his females and his bed, man fought for his home. In other words, the lust of sex eventually evolved into a habit of thought founded on ownership and the obligation to defend it. So was the germ of patriotism conceived.



Eons rolled by and in their course reason and usage developed a tolerance for the young males until at last they were permitted to remain. Since each of these males had in him the same feelings of ownership and obligation towards his home, it came about that when it was attacked by beast or man each male reacted identically and so produced unity of action in defense.

Doubtless more ages came and went before the idea of combination in defense produced its corollary, combination in attack. Again this unity of action was likelier due to change than reasoned thought. Stark famine drove men forth and chance presented them with some huge beast on which their separate hungers caused attack. Eventually, they may have been able to apply such combinations against beasts to dealings with their fellows, but it is more probable that some vagary of nature destroyed a cave and that its inmates driven by hunger to individual despair attacked a neighboring shelter all at once and so by lucky combination, won.

By some such steps was the value of combined action discovered until with the dawn of history we find; tribes, city states, and territorial principalities. Yet, nowhere are we told of the causes which had even then clearly set apart the leaders from the led.

Almost indubitably the cause was biological. In the family tribe the patriarch arrogated to himself, by virtue of his might and parenthood, the leadership. In the course of time, selective breeding, due to the appropriation by the chief of the most desirable females, produced some superior individuals among his progeny who, in their turn, gained eminence and repeated the process. In Egypt, and much later in Hawaii, such a system prevailed and produced a definite physical and conjoined mental superiority among the chiefly class.

Such superiority gave added opportunities for its own enhancement while at the same time reacting on the weaker masses to render them still less fit, by limiting their choice to imperfect mates and by depriving both them and their offspring of food either in quality or quantity comparable to that enjoyed by the chiefs.

In the combats undertaken by the tribes, individual vigor was the chief essential to success. This circumstance redounded to the advantage of the well nourished leaders who, by success at arms, not only improved their position, but also enhanced their reputation so that in both fact and theory they were respected as great. It is true that the opulence they acquired often sapped the virility which had procured it, but in the strata just below them were aspirants of equal breeding quick to take their place.

In these early combats the less well nourished of the commons died, while the survivors prospered through both plunder and chiefly favor, secured by association in success; hence finding war profitable they specialized in it and by its practice became the more adept.

Having now, as we believe, traced this evolution of the chief and his immediate followers, it seems pertinent to query what were the causes that still induced the weaker and less vigorous members of the population to fight.

As we have shown, the earlier fights arose from necessity and were persisted in through the pinch of hunger or the urge of lust; causes bearing with equal force upon every member of the community. Occasionally circumstances, or an able leader, caused success of a superior order so that general cupidity was added to the other causes of war. In all the ages during which such

simple wars were going on, the chiefly class was developing and with it the habit of fighting under leaders; first spontaneously chosen, then selected for life, and finally born to the job.

Even with the early appearance of the hereditary chiefs, the optimism of youth (few savages grow old) and the unstable nature of society induced men to fight. They saw the returned soldiers richer and more important; while of those who failed at war they saw nothing and soon forgot their curtailed existence. Thus, optimism combined with habit to produce recruits while the carnal recompenses of victory and the cheapness of life produced hardihood in the actual fight.

Other causes evolved concurrently. Man and the lion possess in common the love for slaughtering the unresisting. It behooved men then either to be strong or else to seek the protection of those who were. For the privilege of existence, the unwarlike sold the birthright of independence. The more largely the weak lost equality, the more largely did its emoluments bulk in the perspective of their minds and the more strongly did the less base among them yearn for its possession. In strife these saw a door leading to the fulfillment of their desire.

Another cause for fighting found its source in the horrid monotony of pauperous existence. A certain amount of culture was, however, necessary before the mind could harbor this feeling for monotony, and could hardly have found place in those earlier times when each day's existence was but a dubious gamble with remorseless nature.

The situation at the dawn of history was then the result of the evolution of the hereditary chief supplied with soldiers whose incentives were, speaking generally, greed, the necessity for protection and habituated obedience; tinctured to a degree by ambition and spurred on to seek the romance of war by the prodding heel of impecunious monotony. While in the actual combat they were all held up by sex lusts, greed, and the mass instinct flowing from a multitude of communal emotions.

With the continued development of the intelligence, man evolved new names for old emotions while the brain children so conceived produced in their adolescence new conditions leading still more inevitably to war.

Since mating originated in violence, the females developed, or always possessed, a partiality for strength and ardor. This basic fact impinging on the mind through all its progress produced the notion that to be successful with the other sex man must possess might and violence. War was the natural place to demonstrate these traits. To disseminate the facts as proved, man had to appear well to his fellows so that they, in turn, would sing his praises to the *shes*. Thus was self respect, fear of fear, in a word *courage* (as a mental trait) evolved.

To fan the flame of this emotion came the bard, a dirty fellow probably, loath to fight, yet who found fat living by the simple feat of telling other men how great they were.

The courage above described is purely mental and hence requires conscious thought to make it operative. Its possession induces man to enter or seek danger, but it will not maintain him in its actual presence since there imminence of death stuns reason. Still, as the pride of valor is based on desire to appear well to others, the more conspicuous a man is the more is his pride sustained and buoyed up, the longer is he brave. This fact explains the invariably higher percent of casualties among leaders.

In addition to the above type of courage, there are two other sorts. First, the fortitude of experience as illustrated by old soldiers. This sort springs not from any particular virtue, but rather from the knowledge that battle is less dangerous than it seems. Second, the courage of the cornered rat, when either fear or rage obliterates intellect and the creature fights insensate in a blind effort to survive or slay.

The first of these two lesser classes is based on mental courage since clearly this was necessary, in the beginning, to get them to endure the scenes to which later *habit* made them casual. Since long association with fighters and military surroundings produces a sort of reflected image of this courage in the minds of men who have not, in fact, experienced the realities of war, and since in combat the nonchalance of veterans is imparted to recruits, the courage of experience is of vital military importance, and is the chief argument for professional armies.

The second sort of courage is purely individual and is the result of emotions not susceptible to prearranged stimulation, so is of no military value. It may be suggested that fear of punishment will arouse this animal courage. This is not so. To be influenced by the threat of punishment, man must retain his memory; this is inimical to the state of frenzy we have tried to describe.

Success, in any pursuit, but whets the appetite to greater desire, so the leaders who succeeded, and survived, yearned ever more strongly for war while with their increasing capacity their ambitions grew apace; instead of caverns, provinces became their goal. In like manner, but in lessening degree, the same feelings permeated the masses of their followers.

Before proceeding with the development of our subject, it is well to pause and here recapitulate the fundamental emotions which up to this point seem to have been proven the impulses which cause men to suffer wounds and death.

These are: hunger; sex and its simpler derivatives; unity of action, due to unity of impulses; biologically produced leaders; greed; the need for protection; ambition; romance; monotony and *habit*.

Not wholly unworthy, perhaps, of the ends they produce, yet, in their nakedness, devoid of those subtler emotions and roseate lights with which legend, art, and history have invested the.

We have adverted to the genius *Bard* of which Homer was among the earliest and most notorious example. But, it was to the institution of chivalry that the Bard, now a minstrel, owed his greatest eminence. Indeed, whether the minstrel was the child of chivalry and the grandchild of Christianity, or whether Christianity, through the bard, made chivalry, is a moot question. But the devices they two evolved, the minstrel and chivalry, to deck with wreaths the bloody hand, and raise the eminence the dripping lance, lived long after they themselves were sped. Truly, the knightly belt and golden spurs with the aura attaching to them have never been surpassed as a means of raising man above himself to deeds of selfless heroism. But we must not forge that brodered belt and gilded iron were but as worthless dross save when the eyes of lovely demoiselles flashed on those tinsel gauds, the glory of their age-old blandishments. And medals of today derive their potency from just that source; — sex.

In addition to the effulgence which chivalry imparted to war, necessity and logic added to it utilitarian, but non-fundamental, restrictions and doctrines to which usage has assigned the force of law.

As illustrative of this last statement, attention is called to the fact that now care and respect for the wounded seems a noble and righteous act, whereas it is but the result of expediency and self interest. All might some day be wounded so the slaughter of the injured by the whole could well result in a similar fate to the slaughterers, when maimed. Help for the helpless springs from love of ourselves, not of our foes.

Fear of retaliation has in the same way modified the usage accorded enemy non-combatants. Also, experience showed that indiscriminate looting hindered more than it helped military operations and, in the case of a retreat over the ruined area, might well prove fatal to the over-thorough devastaters.

Long adherence to such conventions has now formed a mass conscience so that violations of such self-imposed rules would react profoundly against the violators. Witness the Lusitania.

Having noted the fundamental causes inciting the individual, and later the mass, to combat and having also examined to a degree the growth of sundry artificial incentives and restrictions incident to the waging of wars, we shall now investigate the agencies evolved to retain and stress the primitive emotions of individuals under circumstances which caused their spontaneous manifestation to become less and less a natural process.

As the everlasting strife went on, it became evident that certain individuals were more apt to it than were others. Also, as civilization improved, the power of resistance grew with it. More time was required to overrun a province or capture a town. The lengthening of operations led to a cooling of ardor; men were abundant who could take a day off to storm a cave, but were less numerous who could take a year off to capture a city.

Further, as the technique of killing improved, the fact developed that numerous unskilled amateurs were relatively less efficient and more costly than were fewer skilled professionals. As a result of this knowledge, leaders have at different epochs reduced their demands for quantity and satisfied themselves with quality.

When this project was first essayed it became patent that the naturally adept at war were insufficient in numbers to wholly replace unskilled hordes so the natural fighters were augmented by a certain number of the less efficient. In utilizing this system the further fact developed that something was lacking, particularly with the inapt portion of the force, this lack manifesting itself in diminished enthusiasm in the mass, arising from the nonexistence of that community of the sundry individual emotions formerly actuating its members.

The man who fights for a living must, unless he is a very rare person, live in order to profit by his fighting.

The fact that, from the beginning, valor has been the chief theme of song and story proves beyond question that at no time has its possession been a common attribute. This circumstance became strongly impressed on the leaders with the inception of semi-permanent forces and led to a quest for means to produce artificial traits whose result would simulate valor or replace the lack of the one-time individual emotions of lust and cupidity.

Eventually, this search led to the empirical discovery of *habit*. Means were adopted by which the incessant repetition, in peace training, of specific warlike acts produced so strong a habit, so stimulated, that is the automatic reflexes, that in combat the acts learned were performed subconsciously. But, like all hypnotic functions, the balance of this automatic state proved so finely adjusted that under sufficient stress, the hypnosis of habit (discipline) crumbled and men suddenly realizing their peril fled in as violent a manner as they had previously fought.

To counteract this tendency other means were evolved among which the most usually employed were: the strengthening of habit by still more rigorous rehearsals, the increased use of long service soldiers possessing the hardihood of experience, the infliction of savage punishments, the inflaming of men's minds with race and religious antipathies, the utilization of first local, then unit, and finally national patriotism.

Further, full advantage was at all times taken from a modified use of the allurements inherent in lust, cupidity, fame, and finally by the example of the few natural leaders and fighters whose acts, and the rewards conferred for them, aroused emulation.

In consideration of the foregoing, it appears that the habit forming repetitions called drills, and its various adjuncts called discipline and morale, are in effect but an attempt to produce a **fictitious courage**.

In order to give emphasis to our subsequent remarks, we repeat that the whole function of **drill** was to so fully impregnate men with the forms of combat, as practiced in training, that in battle they would still function. That the whole purpose of discipline and morale was to first induce men to go to war and, more important still, to so bolster up the habits formed by drill that in combat they would the longer endure.

Where the method was the phalanx, the phalanx was practiced with its ordered files and cadenced step. When the bow was in vogue, its use was rehearsed on foot or horseback according to the race and period.

Bowmen did not practice endlessly the evolutions of the hoplite nor mounted knights those of the legionary.

However, with the hunger for precedent awakened by the renaissance and stimulated by the printing press, a subtle change occurred. When Gustavus, Maurice, and Conde began to utilize small arms fire in ever increasing degree, the short range and low rate of their weapons made it vital that rigid linear formations be maintained so that the pikes and shot could mutually support each other and no opening be left wherein the hostile cavalry, hovering near, could insert itself.

With Frederick and his perfection of muzzle-loading fire the same causes, though in modified degree, still prevailed; rigidity was still essential. The successes he achieved and the notoriety attendant on them attracted many copyists so that though, in each succeeding war the necessities of the case grew ever less, his mechanism still prevailed until that luckless day when some pedant gave his system of close order seeming immortality by coining the phrase, *Disciplinary Drills*. Not only was this expression of itself alluring, but the inherent laziness of man seized upon it as a panacea for thought. The parrot like mastering of words of command, and tricks of execution, took little effort and no imagination. Phonographic drills boring to all concerned were executed in the soothing belief that by such acts the full duty of a soldier was accomplished.

So, today, with this procedure sanctified by years of usage, we find in our ceremonial formations and close order exercises simple copies of the battle formations and evolutions of the great Prussian, but without their *raison d'etre*, for while with us they are utterly foreign to the battlefield, and may well become equally unadaptable to the march, in 1760 they were the key to victory.

We can but thank an ever just God that the person who invented *Disciplinary Drills* failed through ignorance or inadvertence to recognize the soul stirring efficacy, from the same point of view, of daily practice in the formation of the Roman tortuga. Had he been more erudite, oblong shields would still be an ordnance issue.

It seems pertinent to relate here, as illustrative of the utter folly with which man pursues means to the disregard of ends, that shortly after the death of Frederick a controversy arose among his officers as to the relative military value of a cadence of a hundred and twenty-two steps to the minute. In attempting to find a solution to this momentous question, many books were written and several duels occurred resulting in the death of three of the contraversionalists.

To return to our subject, it is maintained that these archaic drills in which we squander our time are worse than useless; they are actively harmful.

Battle is an orgy of disorder. No level lawns or marker flags exist to aid us while we strut ourselves in vain display, but rather, groups of weary wandering men seek gropingly for means to kill their foe. The sudden change from accustomed order to utter disorder — to chaos, but emphasizes the folly of schooling to precision and obedience where only fierceness and habituated disorder are useful.

We admit that in extended order we have *Drills For Fighting* but it is our experience, gained over a period of some twenty years, that the average officer who, as the word indicates, is the most numerous, will, due to his mediocre nature, and consequent lack of imagination and energy, spend at least four-fifths of his time in teaching formations and movements which have far less battle value than leap-frog. Nor is he wholly to blame, nor is the excellent officer immune from censure. Due to tradition, the measure most frequently applied in the determining of comparative excellence is the fictitious yardstick of precision drill. The good ones therefore strive to excel regardless of the futility of the means.

It is true that the theory of the necessity of pomp in war is ingrained in our nature, that we crave display and ceremony, in witness thereof note our countless uniformed marching clubs and societies. It would seem, however, that gala attire mingled in mass formation could satisfy this craving; even the orderly minds of ancient sculptors fail to present a Roman triumph with dressed ranks and ordered spears. Our present system disregards human nature in the infinite pains it takes to mingle Prussian order with Quaker habiliments. Few of the brazen heroes adorning our village monuments have their clothing buttoned or their guns at a right shoulder. Disregarding this fact, we feed the craving for the gaudy and bizarre with doses of somber regularity.

We have already mentioned the fact that in addition to the use of endless repetition in *Drills For Fighting*, other agencies are necessary to keep man to his gruesome task in the terrible presence of death, and prevent him, particularly in his earlier experiences, from yielding to panic, which always hovers menacingly about even the best troops.

In considering these other means, we come upon certain disheartening tendencies resulting from increased culture.

For example, a survey of military punishments shows an ever diminishing severity caused chiefly by enhanced regard for the individual as such without consideration for the well being of his comrades. While as Christians, we should take comfort from this growth of leniency as an index of morality, and as citizens perhaps glory in it as an evidence of heightened respect for public opinion; as soldiers we must nonetheless admit that its existence makes the winning of battles ever more difficult.

In the World War, we had recourse to the stimulating force contained in hatred. Now while hatred has frequently proven very efficacious when founded on fact, the propaganda sort we attempted failed. We were poor vicarious haters, and had to rely rather on the mental tonic of a sense of duty. This stimulant becomes less and less potent as the enemy is approached because, due to its mental origin, it ceases to function in exact proportion to the shunting out of thought by the increasing imminence of death.

Better results would have been attained if the same public opinion which discouraged physical punishments had been enlisted to insure mental torture. In other words, had pride, a secondary sex emotion, been utilized. Unfortunately, undue consideration for individuals, fear of estranging potential voters, and a silly censorship prevented the people at home from ever knowing whom to honor and whom to blame. Few units would have failed to reach their objectives had their members been sure that the next morning the girls at home would have known. Unquestionably, individual injustice would have been done; such is the nature of war; but the doctrine of the *Greatest Good* would have justified such a course.

It is interesting to recall that during the Russo-Japanese War, a Japanese regiment which failed at 303 Meter Hill, if our memory serves us, was degraded, formed into a labor unit, and the facts promptly published.

Another impediment to leadership, and hence to success, is inherent in the obliteration of class enunciated in our constitution. However desirable this free and equal idea may be on political and social grounds, it is fraught with serious consequences insofar as the military is concerned.

Members of the gentle or lordly class to whom in peace respect is accorded by virtue of their birth, develop, by induction, a feeling of obligation to be worthy of this respect. Practically their only opportunity to demonstrate this worthiness comes to them in battle or in other times by grave emergency. Witness, for example, the almost universal heroism of the otherwise decadent French noblesse during the *terror*.

Conversely, the commoner continues to accord to the gentleman, when an officer, the same respect he previously accorded him as a civilian, and this, in its turn, tends to nourish and develop the feeling of leadership still further.

The following two incidents rather aptly illustrate the notion of hereditary superiority and consideration resulting from conditions such as above described.

On reaching London in the spring of 1917, we happened to converse with a withered little man who shared with us a seat on the Underground. In the course of the conversation he remarked that

he, a clerk, had lost his two sons in the war, but immediately he added, "But, sir, that ain't nothin' as compared to our gentry. They were wonderful — they are all dead."

About a year later in France there was a long railway queue at a ticked window. Just ahead were two British soldiers. When we had been in line for some time a British subaltern came up and stepped into line ahead of the soldiers. Whereupon one of the said, "'E don't know no better, 'e ain't like our gentlemen hofficers wats dead."

With us and our mono-class system, the officer, particularly the new officer, has no inherent sense of superiority to sustain him and he is therefore either diffident, fawning, or else bolsters up his inferiority complex with undue harshness during training, while in battle he is more prone to forget his obligations and cease to lead.

On the other hand, the soldier seeing, as he often does, one of his sometime cronies made an officer has for him, initially, no feeling of respect, which fact in its turn reacts on the officer to lessen still further his self confidence.

Mobilization plans which contemplate officers and men for reserve units coming from the same localities are defective. The ex-ribbon clerk lieutenant from Mudville, may, for a time, be accepted at his shoulder strap valuation by the private from Swamp Hollow, but never by the men from home.

Of course, proven valor and ability evoke willing emulation and respect, but the proving takes time and opportunity.

The utility of patriotism, be it local, unit, or national, is admitted, but in our opinion not sufficiently explicated. Already, under mental punishment, we have referred to the powerful influence latent in local public opinion and evokable by a pitiless publicity as to successes and failures.

Unit loyalty is most applicable to historic regiments and hence has but a limited application at the beginning of a war where we are dealing with the formation of amateur armies. It is clearly the reason behind the creation of *Corps d'Elite*. However, it quickly asserts itself; for among beardless veterans, life is vivid and very brief. In our Civil War such a feeling was clearly felt in and for such units as the Stone Wall brigade and the Bucktails, not to mention many others.

National patriotism seems at the present time a waning influence, barely discernible, as a sort of mirage of hot air against the pale pink sunset of masculine virility. This subsidence is partly traceable to socialistic propaganda but chiefly takes its source from the fact that in huge nations local interests supervene to eliminate, either wholly or in part, a just appreciation of national matters. In our own case, this condition is further aggravated by lack of race homogeneity.

Having sketched the sources from which the fighting spirit takes its origin and having further depicted certain of the present day drawbacks to the full utilization of these primary springs, we shall, in closing, attempt to advance some remedies purposed to correct the defects in our system in preparation for that resumption of war which the inevitable cycle of history unmistakably proclaims.

Insofar as the technique of *Drills For Fighting* is concerned, its nature is too complex for discussion within the space of this article. We, therefore, dismiss it for the present with a simple



assertion as to its vital nature. In a subsequent article, we purpose to extend and examine the subject in greater detail

In considering the moral stimulants with which we propose to augment our technique, the first in order is punishment.

Due to maudlin sentimentality it is not possible to cause the mass of a nation to view military punishments from their proper angle, namely as administrative rather than judicial acts, whose purpose in wartime is not to wreak vengeance on the guilty, but, rather, to restrain the innocent.

For example, the idea behind the death sentence for such acts as desertion, sleeping on post, skulking, etc., is not inherent in the offense itself. Desertion has, perhaps, no extenuation but the other offenses usually have.

The poor tired boy who sleeps on his post is more to be pitied than blamed insofar as his individual case is concerned. But the act, harmless in itself, may have exposed scores or hundreds of his equally deserving comrades to capture, wounds, and death. It is for their sakes, not his fault, that the final penalty should be exacted of him.

A man may, under the influence of fatigue, so forget his obligations as to chance a term of imprisonment against a moment's oblivion, but he will think several times before he makes the same gamble with the certainty of death; his own death, not that of his comrades.

So with the skulker; the act in itself may be the natural outgrowth of lifelong teachings in safety first, may arise from the instinct of self preservation, may be the result of nervous collapse caused by fatigue, or may be sheer lack of guts. None of these reasons is in itself very abnormal. Nor, when viewed from the then frame of mind of the skulker, is the resulting act very heinous. Only when we consider the act apart from its results does its enormity become apparent. In the first place, the skulker jeopardizes and may negate the efforts and sacrifices of many gallant comrades. In the second place, he sets an example, which spreading with the rapidity of a prairie fire, sweeps others of his kidney to acts of similar baseness. Worst of all, he cuts the very root of military virtue, which is based on mutual confidence.

The execution of the skulker is necessary, not for his sin, but for his betrayal of his comrades. Judas is execrated for the betrayal of One, should he who betrays hundreds escape?

The man who shirks does so from fear of wounds or death, seldom in actuality, measurable by odds greater than one to five. If he can be assured that the next day his odds will have changed to one hundred to nothing, with the chance of wounds eliminated, he will be more chary in his shirking.

A long war, particularly if it is initially unsuccessful, may in the end convince people of the expediency of these views. In the beginning, much inertia must be overcome. The press and public men could aid in forming opinion to support the military — that they will so aid is more than doubtful. So, we are faced with the fact that, in the beginning, our men will skulk and sleep in the usual proportions until the habit of battle and the stern measures adopted by their afflicted comrades enforces some check to their predilections.

Of course a check always exists in the application of those preventive measures euphemistically called *Battle Discipline* which some few officers and noncoms have the courage to use.

The only immediate and practicable remedy lies in so modified a censorship that a *Pitiless Publicity* shall expose with equal promptness the doings of the hero and the knave to that most merciless of tribunals — home town gossip. The effects of this device would be most far reaching since the ease and promptness of communication have made available to the soldier the whip lash of home opinion in a degree never before approximated.

Men do not fight for pay — they must have pride. Any system which deprives them of glory while rendering them immune to scorn is absurd.

To maintain the sequence of our previous remarks, we shall next investigate the stimulating power of hatred.

The word is over strong to express those race and cultural differences which the weakening tendencies of modern civilization still permit us to use. Yet, degenerate as they are, they are still worthy of consideration. The best means of emphasizing them is to use racial differences to stimulate the superiority complex. For example, there is no physiological reason why a diet of frog legs should be less manly than one of cows' ribs, yet the constant allusion to their enemies of a hundred years ago as *frog eaters* undoubtedly inspired the British of that time with a contempt for them. Similarly, a difference of opinion as to sartorial trimming has been used by both sides to bolster up self esteem to the prejudice of their adversaries.

Since the insertion here of similar pertinent remarks as to the gastronomic or other peculiarities of our potential opponents might well unbalance the peace of the world, we shall refrain; but a little forethought could, we feel sure, provide us with many slurring epithets.

In addition to these puerile, but useful, means of developing self esteem, there is the universal device latent in atrocities. Good atrocities are easy to invent and difficult to refute, since in all argument the assertive has it over the explanative. In picking such heinous acts it is best to choose those we attribute to the enemy from among the ones of which we ourselves are the most apt to be guilty, since, if we are caught, we can then explain our acts to be retaliations. On the other hand, since we have never been blatantly guilty of acts against religion, unless it differed from our own, or against women or children, much capital can be made by instantly accusing the enemy of being ungodly and ungallant.

Finally, in the event of wars waged in our own territory, we have the hatred coeval with the race which now, as in the beginning, has ever existed against the attacker of the home.

Under punishments, we have already mentioned the utility of local pride or patriotism, but its potentialities can be still further exploited.

Nations which have created regimental depots have done so with this object in view.

To obtain the best results, recruitment should be done from the area contiguous to the depot and, at it, all recruits should receive their initial training from detachments of the unit they are to join.

At the same time all convalescent wounded should be passed through the depot on their way back to the front. By these means, coupled with great candor and promptitude in the reporting of the current successes and failures of the regiment, civilian interest will be aroused. Due to the presence of the returning veterans, the history, exploits, and traditions of the unit will be earlier imparted to the new soldiers. Further, since veterans are never averse to enhancing their own reputation by stories, true or otherwise, of their recent exploits and, while warmed by the ardor of their recitals, they stress only the glory and excitement of combat, these stories give to the recruit pictures of war which, while illusory, are permanent. So stimulated, the young soldier determines to emulate or surpass his predecessors and having frequently so announced is later deterred from back sliding by the fear of local disgrace with its attendant loss of standing among the fair sex. He thus cultivates in himself prospective hardihood.

Another trait which is played up by the Unit Depot system is the latent desire in all men for posthumous celebrity. For, birth control to the contrary notwithstanding, all men possess that feeling so well illustrated by the story of the soldier who on being called before his captain for fighting a comrade excused himself by saying, "Well sir, it was this way. I was cleaning the latrine and this guy comes by and says to me, 'What are you going to tell your children when they ask you what you did in the great war?' So I hit him."

With the depot system it will be easier for the children to know.

Unit pride is but an extension of the local spirit just described and is subject to the same influences. In addition, it is fundamental to its existence that absolute permanence from both officers and men must be maintained. No claims of economy or expediency can ever be justified where they involve incessant shifting of men from unit to unit until they have no more *lares and penates* than a traveling salesman.

It is noteworthy that in our present general mobilization plans, a replacement for a Texas division may well come from Boston.

With the Regular Army this system could be inaugurated in peacetime, for when the exigencies of the service demand that Captain John Doe be detailed in a staff corps or department he should carry with him his identity by the use of the title and insignia of Captain John Doe, Nth Infantry, Q.M.C., etc. The formation of such a system would require some bookkeeping but with the restrictions as to the number of battalions in a regiment removed, mobilization would always find more than enough places in the old regimental home for all its wandering children.

While the following remarks are probably as unattainable as Moore's famed republic, we cannot refrain from inserting them. We believe that much better results would be attained if the present pompous and empty Organized Reserve divisions, brigades, and regiments were scrapped and the units of that force were limited to battalions; while the battalions, themselves, should be made integral with existing regular regiments as 4th, 5th, etc., Battalions, Nth Infantry. As a prerequisite for such an arrangement the regular regiments should be localized for recruiting and the subjoined Organized Reserve battalions be given identical localities.

Two immediate advantages would accrue from such an arrangement: first, the elimination of Reserve Officers with rank out of all comparison with their experience and abilities; second, a greater stimulus to local civilian interest in both regular and reserve units.

Such a step clearly presupposes the adoption of the so-called British system. It should be recalled, however, that prior to 1898 it was in large measure our own. A further discussion of this subject from a tactical view point will appear in a subsequent paper on Drills and Fighting.

As has already been pointed out, our present bulk makes active National Patriotism largely impalpable. Stress of war, particularly if one of invasion, or one in which we were initially unsuccessful will, to a degree, crystallize this feeling, but in the meantime the situation would be improved if pacifist moves were treated with less tolerance. The prompt shooting of some scores of conscientious objectors would go far towards removing bellicose inhibitions.

Another move which might be easily instituted at the beginning of the next war would be to explain to editors, most of whom are patriotic, that the printing of sob stories amounts to a traitorous act. Men in combat are too weary or excited to entertain the thoughts and emotions attributed to soldiers by the sick brains of unwarlike writers while the pre-battle reading of such stuff by new soldiers simply subjects them to useless and brutal mental torture, as they anticipate feeling these fictitious emotions and, in prospect, suffer many pangs which their actual experience will subsequently prove nonexistent.

In our initial catalogue of inciting emotions we enumerated lust and greed. But today improved culture steps in again to deprive us of the major part of their influence. The sacking of places taken by assault was the chief means of pandering to these crude feelings. Since our civilization cannot now stomach such acts we are forced to abandon them. Certain conditions may, however, yet arise where circumstances of great hardship can be exploited to inspire our men with the hope that success will grant them full bellies and warm clothes. The battle of Gettysburg was precipitated by the rumor that the town contained a large supply of shoes.

The popular expression, "Soldier Boys," has more truth in it than its poetic originator probably guessed. The fighting ranks (or armies) are largely composed of boys, and the simplicity of the life led by men in campaign tends to retain and redevelop their boyish propensities. While the theory, that in passing from the germ plasm to the grave we relive in a brief span the whole gamut of our evolutionary existence, may not be wholly tenable, it is nonetheless certain that the boy is more nearly similar to uncivilized man than is the person of greater age.

For this reason soldiers respond very readily to the simple emotional stimulants which formerly actuated the race. Of these the most potent was the sex originated desire to appear well, to be a hell of a fellow. We see this desire for self expression and laudation evinced in the bizarre costumes, antics, and hair cuts of school and college boys. Putting men in uniform, usually ill-fitting, not only deprives the youth of his power of self expression, but, to a degree, hurts his pride by making him look like his associates.

In the gay uniform given by Napoleon to the Young Guard we find him realizing and profiting by this fact.

The fortune of many Semitic tradesmen was started in 1919 by the sale to returning *Heroes* of gaudy, but unauthorized and meaningless *Campaign Ribbons*, bought with no intent to deceive, but purely to please the ladies.

Every recurring election or club convention depicts the same blossoming out of the male population in badges and bloomers.

In the army, the ribbon has replaced the knightly spur and belt and at a greatly reduced cost.

Its possession gives differentiation, distinction, and fame. For the privilege of wearing a dime's worth of taffeta, a man will do deeds which all the treasure of the Incas were impotent to cause him to attempt.

In the World War we increased our decorations from one to three, but it was not enough. And, the parsimony and delay attendant on their distribution took from them much of the effect they were intended to produce. Fearful that one unworthy might be decorated, we examined, hesitated, and hectoring our heroes; utterly forgetful of the fact that a coward dressed as a brave man will change from his cowardice and, in nine cases out of ten, will on the next occasion demonstrate the qualities fortuitously emblazoned on his chest.

We must have more decorations and we must give them with no niggard hand. The story of the young soldier who, on being asked by Napoleon what he desired in recompense for an heroic act said, "The Legion of Honor, Sire," and when the Emperor replied, "My boy, you are over young for such an honor," again answered, "Sire, in your service we do not grow old," is as true as it is tragic. Our men will not grow old. We must exploit their abilities and satisfy their longings to the uttermost during the brief span of their existence. Surely a machine gun nest for an inch of satin is a bargain not to be lightly passed up.

The frame of mind which places the invariably unsuccessful attempts to delude the enemy above the inspirational influence of a distinctive uniform is to us incomprehensible. If a chasseur's cap could make a *Blue Devil* out of a peasant, think what a pink feather could make of our men!

In addition to the present battle honors on the regimental colors, the colors of specially distinguished units should be exempted from saluting while passing in review. Nice distinctions might be made in this privilege, as for example, allowing some only to salute major generals, some more distinguished only lieutenant generals, some generals, and some, the highest, only the president.

Endless other expedients could be enumerated, all tending to produce distinctions based on military merit, to emphasize valor, to vividly proclaim the super-fighter.

We know that we will be told that Americans do not care for such things, that the supply problems will be made more difficult, that injustices will be done. To such remarks we reply that the *Spirit of the Soldier Boy* is ever the same, ever the simple, vain, ingenuous savage soul of youth; that supplies difficulties seldom trouble victors, and that war is only resorted to when justice has failed.

You can rely on punishment, habit, and the valor of experience with long service professional armies, such as we shall never have. With amateur armies you must lead by seduction. War may be hell, but for John Doughboy there is a heaven of suggestion in anticipating what Annie Rooney will say when she sees him in his pink feather and his new medal.

"In war," said the Emperor, "men are nothing, a man is everything." All history vindicates the remark. The subterfuges and stimulants we have mentioned arise from and owe their existence to the lack of men of the leader type and all of them are but auxiliary means to which the leader spirit gives life and utility. Mind you, we are not concerned here with the great military luminaries. So

far as we can discern, this select group must be classed as biological incidents whose existence is due to the fortuitous blending of complementary blood lines at epochs where chance or destiny intervenes to give scope to their peculiar abilities. What we must acquire to lead our men are the lesser combat chiefs. In this country we start our search handicapped by the absence of potential leaders consequent upon our lack of civilian class distinction. This condition cannot be altered, but other means are at hand among which are the following.

By increasing greatly the number of graduates from the Military Academy and discharging the surplus after a year's service with troops, we will secure a certain number of men who, by education and training, are better fitted for company officers than would be the same individuals fresh from the counter or the farm and minus the ingrained traditions and attached prestige consequent to graduation from that great school.

Additional material is also being accumulated from graduates of the several R.O.T.C. Colleges. Such men have an initial prestige which will help bridge the gap until a reputation of demonstrated ability is secured in battle.

The limited number of noncommissioned officers with Reserve commissions are superior to the college men for while they lack education, they vastly surpass them in experience and assurance.

Reserve corps officers with World War experience are fast becoming useless because, in company grades they are too old, while for field grades, with very few exceptions, they are utterly useless. We base this assertion on the fact that the qualifications for successful leadership in business and war are similar. Due to high competition in business, few successful men in that walk of life can find time to devote to military study and none of them can, in the brief space of summer training, find time or opportunity to master minutiae of war, or attain the habit of command on which military leadership is founded.

Even if all the above sources of supply are developed to the full, the next war will almost surely find us facing a dearth of officers and we will be tempted to have recourse to Training Camps. Now, in spite of our vaunted democracy, there is nonetheless a certain tendency to class distinction based on educational qualifications. The dividing line seeming to sharply separate those who hold and those who do not possess a college diploma. In our experience, this distinction is illusory so far as command ability is concerned. Murat and Villa could never have entered a training camp.

The notion that military ability takes its source in high-powered thinking is very congenial to us, nicking as it does with the national mania for superficial education. The theory is further stimulated by historians, who, being students themselves, are inclined to depict their heroes as being highly endowed with the same traits which in themselves they so greatly reverence. The chance reference to 1870 as the *Schoolmasters' War* is often quoted by them with complete disregard of the fact that initial successes were due to the ferocity of the unscholastic Steinmetz. It may well be that the greatest soldiers have possessed superior intellects, may have been thinkers; but this was not their dominant characteristic. With the possible exception of Moltke, all great generals with whom we are familiar owed their success to indomitable wills and tremendous energy in execution and they achieved their initial hold upon the hearts of their troops by acts of demonstrated valor. However, we digress; the great leaders are not our responsibility, but God's.

In the lower grades in a great war special education will be impossible and general education useless. We must commission only brave and energetic men. As the only means of carrying out

this notion, it is submitted that there be no training camps, that all commissions after the first battle go to soldiers of proven combat ability, and that all replacements be in the grade of private. In making this assertion it is evident that we are abandoning our thesis as to the advantages derivable from hereditary class distinctions. Such is exactly the case. It is futile to consider conditions which for us cannot exist. What we must do is to go back a thousand years or so and reconstitute in our armies the aristocracy of valor in which all aristocracy originated.

Men commissioned and promoted in accordance with this plan will have, as a start, the aura of proven courage; they will have further the prestige of battle experience. Promotion so gained will arouse in them pride and a sense of obligation to be worthy of the honors conferred. Finally, we shall very rapidly develop a hierarchy of courage and infinite solidarity since the junior will owe to himself his ability and to his superior its recognition; for captured objectives, not mildewed diplomas, will mark the road to preferment. If confirmation for these remarks is necessary, it exists in two statements made by the master of war, Napoleon. "Better, he said, "an army of stags lead by a lion than army of lions led by a stag." And again, "Every French soldier carries in his knapsack the baton of a Marshall of France."

Having completed our investigation, enumerated our difficulties, and advanced ideas for their correction, we close by summarizing the result of our efforts thus.

Nothing new was discovered since the soul of man is changeless.

Our difficulties differ in manifestation but not in nature from those Alexander experienced and Caesar knew.

Our success or failure in the next war will depend on our ability to face the naked facts as they exist, and to utilize our means not as we would, but as we may.

G.S.P.  
October 27, 1927

General George S. Patton, Jr.

A Speech Presented to  
The British Patton Society

by

Charles M. Province

11 November 1990

Just the mention of the name *George S. Patton, Jr.* immediately brings forth thoughts of a ruthless, swearing, raging General in the forefront of thousands of bloodthirsty troops; riding hell-for-leather in mechanical horses; screaming “Charge Sabers” at the top of their lungs; Blasting, pounding, ripping their way into the entrails of the hated enemy.

In part, that is truthful. That is the image that the General sought when he wanted to instill in his men the viciousness required to destroy the enemy. He said, “War is a killing business. You have to spill their blood or they will spill yours. War is direct, simple, and ruthless. The more of them we kill, the less of us will be killed.”

He demanded and received the utmost in loyalty and discipline from his troops. He knew that to send undisciplined men into battle was to commit murder.

Yet, that was not really the whole Patton. That was Patton the actor. He admitted as much in his private papers when he wrote, “The general must be an actor; he must live the role. He must achieve the warrior's conquering spirit and having achieved it he must either conquer or perish with honor.”

It seems hard to believe sometimes, but just as with all of us, Patton was born a normal human birth. The future general was called, “Georgie” by his family and friends.

He spent his early years in what is now San Gabriel, California.

He went to West Point where he stayed for not the usual four years, but five. When he failed a French exam by one tenth of a point he was required to take both an additional French exam and a mathematics exam. I am not sure why, but it was some obscure rule then in force at West Point. He passed the additional French exam, but this time failed the math exam, again by one tenth of a point. For this he was allowed to re-enter West Point and go through his plebe year again.

When he finally made it through the Point, he chose the Cavalry as his branch of service.

Shortly after his first assignment, he married Beatrice Ayer of Boston, Massachusetts. She was quite a person in her own right. She had three of her books published, she wrote music, and spoke fluent French. She wrote a piece in 1942 called the March of the Armored Force. It is the official 2nd Armored Division March today. Their union produced three children; Beatrice, Jr., Ruth Ellen, And Young George who retired from the Army as a Major General.



Beatrice and George had a very close marriage and they were devoted to each other. During the sometimes long separations that are usual with an Army couple, Patton wrote to his wife constantly, sometimes two times a day. Once he wrote a new joke that he had heard which he thought she would enjoy. A woman said to her husband, "John, if that is your elbow in my back, roll over. If not, I will roll over."

In 1912, Patton went to the Olympics as the American entry to the Military Pentathlon. He placed a very respectable fifth in the competition.

While on the continent, he spent six months studying at the French Cavalry School. When he returned he became the Cavalry instructor at Fort Riley, Kansas and the first Master of the Sword for the U.S. Army. He re-designed the Army saber from a curved "hacking" tool into a straight "offensive" weapon. It was quite a prominent position for a young lieutenant.

In 1916, he went to Mexico with General Pershing. There he was involved in the first motorized fight in the history of the world. He got into a blazing gun fight with some of Pancho Villa's banditos and after carving two notches in his newly acquired Colt .45 pistol, he strapped the bodies to the fenders of his Dodge Touring car and then dumped them in front of Pershing's tent. Pershing from then on called Patton his "Bandit."

When Patton went with Pershing to the Great War, he soon became bored with his staff position. He put in for a job with a newly created branch of service. The Tank Corps. At first, there was only one man assigned to the service and that was Captain Patton. In that capacity, he almost single-handedly created the tank corps. He wrote the regulations, wrote the course of study and training, and did everything from A to Z to get the Corps off the ground and into the fighting of W.W.I.

After being severely wounded, almost bleeding to death, he was too late to get back into the fighting. The armistice was signed on the day he was allowed to leave the hospital.

When he came back home, he left the Tank Corps after the government allotted only \$500 for the entire year's research and development of tank equipment and warfare.

Patton kept abreast of tank development and armored tactics. He worked closely in his off time with Walter J. Christie who was creating the "perfect" tank. After the congress turned down Christie's tank prototype, Christie had to sell it to others to avoid bankruptcy. The "others" were England, Russia, and Germany.

Patton spent the years between W.W.I and W.W.II studying his craft. Years later, when he was accused of rash judgment and impetuosity, he remarked, "A doctor goes to school for years and years to learn his trade. In the course of an operation if he sees something amiss he does what is necessary while the patient is in surgery. For this he is called a skillful surgeon. When I do the same thing, that is, make a quick decision in a crisis, after years of study and consideration, I am called rash and impetuous."

When stationed in Hawaii in the late 1930's, Patton once wrote a paper which turned out to be quite prophetic. He outlined almost to the letter a plan in which the Japanese could use their aircraft carrier fleet to attack Pearl Harbor. His paper was sent to the War Department and filed away; as

are all good little reports. Four years later, the Japanese attacked American forces in the South Pacific.

While having nothing else to occupy his time, Patton wrote another thesis which concerned the re-organization of the Army. He laid out plans for what he called a triangular division table of equipment and organization. It was almost exactly like the plan thought up later by the War Department under the direction of General Marshall. It gave more bang with fewer troops.

In 1942, Patton was promoted to temporary Major General. At the time, all of the future generals of the European Theater such as Devers, Simpson, Bradley, Eisenhower, And Clark were lieutenant colonels. All of these would be given four star rank before Patton would receive his permanent rank of full general. It proved to be very ill treatment of America's winningest fighter; the general who was called by Winston Churchill, "America's Star Halfback."

While a major general, Patton planned and executed Operation Torch, the invasion of North Africa. He then went on to steal the glory from Montgomery in Sicily by getting to Messina before our British cousins.

It was on Sicily that Patton slapped two malingering cowards. Due to lack of backbone in the High Command, he was forced to apologize for his actions. According to information released over the years, it is now known that under military law Patton could have shot those men and been within his rights as a commanding general.

Patton was not in the doghouse for long. He was too valuable. Even Eisenhower admitted that he was imperative to an Allied victory.

Although Eisenhower's head size was growing with each new star on his shoulder, he was once taken down a notch by General Wedemeyer, who was visiting from the Pacific Theater of Operations. Wedemeyer told him, "Ike, get onto yourself. You didn't make Patton, he made you."

Patton's dramatic breakout into and around France rejuvenated his fame as a combat commander.

After the hostilities in Europe ended, Patton had planned to resign his commission. He planned to, as he put it, "Remove his watch, and wear his short coat so that everyone could kiss his ass." He was severely critical of some of the strategical and tactical blunders which had been allowed by SHAEF. He planned to write a book exposing the many errors which occurred, especially the incompetence of such men as Eisenhower and General Lee of the Supply Services.

Patton did not live to complete his plans. He died on December 21st, 1945 of injuries sustained in an automobile accident.

General Patton was one of our nation's most dedicated proponents regarding preparedness. He knew, as does any rational individual, that the simple act of being able to defend itself does not necessarily make a nation a bully. Also, the need for defense requires not only defensive weapons, but, also, offensive weapons with which to attack, if the situation warrants it. There has never in the history of the world been any defensive position that has been successfully held.

Patton was keenly aware that the United States government has the habit of dismantling the fine Armies that it had creates. He had personally seen it happen after the signing of the Armistice on

November 11, 1918 and he knew that it was going to happen after the end of the war with the Axis powers in 1945. Knowing that it was far more expensive to be unprepared and have to build a new Army from nothing than it was to have a finely honed Armed Force in the event that it was needed, he correctly reasoned that, "... it is better and cheaper to have a strong Army and not need it than it is to need a strong Army and not have it." A good analogy would be that an automobile kept in proper running condition by good maintenance practices is much cheaper in the long run than is purchasing a new automobile each year.

He agreed wholeheartedly with the precepts of General Leonard Wood who wrote that "... panic patriotism appears from time to time when the clouds of possible trouble loom up heavier than usual. There is much discussion, but little accomplishment. Adequate national preparedness on sound lines will be secured only when there is a general appreciation of its vital importance for defense and of the further fact that it CANNOT be improvised or done in a hurry. In short, improvisation is inadequate and extremely expensive in both materiel and manpower."

Patton had a very fine sense of history and a keen insight into the future. He made some extraordinary prophesies which have, indeed, come true. Instead of listening to the late General, the politicians ignored him, Patton's superior officers chose to avoid contact with him, and the American newspapers constantly attacked him. Had we listened to the General when we had the chance, we would not be having the great amount of trouble that we are experiencing today. That is a certainty.

In a speech Patton gave to his officers, he said, "Twice in my lifetime, America, the Arsenal of Democracy, has come from behind to insure victory. Is it not evident that should another war arise, those producing it will make every effort to see that the Arsenal of Democracy is knocked out in the first round? How this can be done I do not know, but I do know that the progress made in airplanes and self-propelled missiles is such that the possibility of an early knockout cannot be discounted."

Today, though, we do know how such a knock out blow can be delivered. The massive evidence is blatantly and proudly displayed each May Day by the Soviets as they parade their arsenal of weapons in front of the Kremlin during their celebration of their "Independence Day." Conversely, on America's "Independence Day, July 4th, in many parts of the nation, it is illegal to as much as own a firecracker.

I, personally, have encountered some rather strange considerations concerning America and American preparedness. At one lecture, a man said that we need not worry about being attacked because if needed, American productivity can out produce anyone in the world. That may have been true at the turn of the century and even during the Second World War, but it is pure folly today. We were still isolated and somewhat of an island at the end of W.W.II, but what of our situation today? With the massive first strike capability of the Soviet Union, our major cities, our political capitols, and especially our military bases and production plants will be destroyed before we have a chance to use our "defensive" weapons. Even if we use all of our atomic or nuclear devices and the Soviets use theirs and if there is anything left, they still would have the largest navy, air force, and army in the world. They also have a very extensive and well thought out Civil Defense system, while we have none.

One way in which General Patton explained his position on preparedness was, "When I went to school all of the children were taught how to form in column and march out of the building in an

orderly manner in case of fire. This instruction did not, so far as I know, produce fires, but when fire occurred, the lives of the majority of the children were saved. If we go to the extreme of saying that preparedness produces wars, then the instruction in fire drills would produce fires.”

“Referring again to the fire department aspect of the prevention of war, a very large proportion of the duties of the fire departments in large cities is not the extinguishing of fires, but their prevention through advice and supervision. You men are all potential firemen. You have put out the fire by your heroic efforts. It is now your duty as citizens to see that other fires do not occur, and that you and your children are not again called upon to extinguish them.”

“Let me say that it is my profound hope that we shall never again be engaged in war, but also let me remind you of the words attributed to George Washington, 'In time of peace, prepare for war.' That advice is still good.”

Patton was completely in favor of the concept of a universal conscription system which required ALL citizens to serve in some capacity. As a matter of fact, after the General died, his wife, Beatrice, took up the banner and went forth on the lecture circuit in behalf of a universal draft law. He felt that it should be compulsory for all citizens so that each could serve regardless of race, creed, pecuniary considerations, or religious reasons. He felt, and rightly so, that only when all of the citizens served in the military would the universal draft be absolutely fair and just; and also, only then could all of the citizens feel that they were fellow Americans who were a part of their nation and it a part of them.

Patton said, “I am firmly convinced that we must have universal training because the one hope for a peaceful world is a powerful America with the adequate means of instantly checking aggressors. Unless we are so armed, and prepared, the next war will probably destroy us. No one who has lived in a destroyed country can view such a possibility with anything except horror.”

Patton was always aware of America's “gimmick” syndrome. It was the “gimmick” syndrome that was one of the underlying reasons for the failure of the German Army. he said, “It is very easy for ignorant people to think that success in war may be gained by the use of some wonderful invention like the Atomic Bomb rather than by hard fighting and superior leadership.”

Patton was very much against organizations like the United Nations. To him there were nothing more than clubs for communists. He said, “There are a host of people who have to squat to piss who will say that this will be the “last” war and that from now on we will only need world “clubs.” They are the ones who will be responsible for the deaths of millions of people. The pacifists are always at it. I met a “visiting fireman” of supposedly great eminence who told me that this was to be the LAST war. I told him that such statements since 2600 B.C. had signed the death warrants of millions of young men. He replied with the stock lie, “Oh, but things are different now.” My God! Will they NEVER learn?”

Patton had some very definite ideas concerning communists, socialists, and what he generally termed “do-gooders.” He said, “There are all kinds of low class slime who are trying and will continue to try to wreck this country from the inside. Most of them don't know it, but they are actually working for the Russians. Some of them do know it, though. It doesn't matter whether they call themselves Communists, Socialists, or just plain foolish Liberals. They are destroying this country.”

Patton was well aware of Russian aims long before the war was over in Europe. He warned, "Russia KNOWS what she wants. WORLD DOMINATION. And she is laying her plans accordingly. We, on the other hand (and England and France to a lesser extent) don't know what we want. We get less than nothing as a result. If we have to fight them, now is the time. From now on, we will get weaker and they will get stronger. Let's keep our boots polished, bayonets sharpened, and present a picture of force and strength to the Russians. This is the only language that they understand and respect. If we fail to do this, then I would like to say that we have had a victory over the Germans, and have disarmed them, but we have lost the war."

Patton's succinct summation of his opinion of the Russians was that, "The Russians are all out Sons-of-Bitches and chronic drunks."

It would have been no surprise to Patton when the Russians rolled their tanks into Hungary in 1956; when they built the Berlin wall in 1961; when they smashed the freedom fighters in Czechoslovakia in 1965; and when they invaded Afghanistan in 1980.

Patton was relatively unconcerned about the implications of the atomic age. He felt that the atomic bomb was just one more instrument in the orchestra of war. He said, "So far as the atomic bomb is concerned, while it is a scientific invention of the first water, it is not as earth shaking as you might think. When man first began fighting man, he used his teeth, toe-nails, and fingernails. Then one day a very terrified or very inventive genius picked up a rock and bashed a man in the head while the latter was gnawing at his vitals. The news of this unheard of weapon unquestionably shocked Neolithic society, but they became accustomed to it.

Thousands of years later, another genius picked up the splintered rib of a mastodon and using it as a dagger struck the gentleman with the rock. Again pre-historic society was shocked and said, "There can be no more wars. Did you hear about the mastodon bone?"

When the shield, slingshot, throwing stick, and the sword and armor were successively invented, each in its turn was heralded by the proponents as a means of destroying the world or of stopping war.

Certainly the advent of the atomic bomb was not half as startling as the initial appearance of gunpowder. In my own lifetime, I remember two inventions, or possibly three, which were supposed to stop war; namely the dynamite cruiser Vesuvius, the submarine, and the tank. Yet, wars go blithely on and will when our great-grandchildren are very old men."

There has been a great deal written about the nuclear age and the supposedly terrible burdens on the super powers. Often, it is said that the U.S. should not have dropped the device on Japan. Those people have never seen the atrocities committed by the Japanese soldiers; never known anyone who survived the Bataan Death March; and never seen American soldiers having their heads chopped off with Japanese ceremonial swords. There were some very terrible and useless atrocities committed by the Germans, but, the atrocities committed by the Japanese were no less cruel and vicious.

Strangely enough, some of those who say we should have not bombed Japan would have gladly bombed Germany.

Frankly, I am of the opinion that the whole world is extremely lucky that the United States was the first to have the device. Imagine what would have happened if the Germans had managed to build it. They were working on it, too. How about the French? They would have obliterated Germany without flinching an eyelash. If the Japanese had developed it, I am certain that Arizona would undoubtedly be beach front property today. We are, indeed, lucky that America had it first. Patton knew it's value and would have used it, but only as a tactical weapon.

Patton was concerned throughout his career with the preparedness of military arms in the United States. He was convinced of the necessity of being well armed. He wrote about preparation thusly, "Do not regard what you do as only a "preparation" for doing the same thing more fully or better at some later time. Nothing is ever done twice. There is no next time. This is of special application to war. There is but one time to win a battle or a campaign. It must be won the first time."

Patton was one of the rare "Great Captains" of war. He truly had the feel of battle. A gifted few in history have had this battle judgment; this quality; a combination of imagination, daring, skill, and an instantaneous appreciation for the task to be performed. It cannot be learned in a military school, though the background may be acquired there. Experience in battle is necessary but study and experience are not enough. The leaders that have it stand out above all others. Patton stands out above all others.

Over the years, I have compiled a list of some of Patton's most thought provoking maxims. I would like to share a few of them with you in the hopes that you will think about them.

Always do everything you ask of those you command.

Say what you mean and mean what you say.

Never fear failure.

Inspiration does not come via coded messages, but by visible personality.

It is the unconquerable soul of man, not the nature of the weapons he uses, that insures victory.

A good solution applied with vigor now is better than a perfect solution applied ten minutes later.

In case of doubt, Attack.

A pint of sweat will save a gallon of blood.

By perseverance, study, and eternal desire, any man can become great.

Nothing is ever done twice, there is no next time.

Cowardice is a disease. It must be checked before it becomes epidemic.

I prefer a loyal staff officer to a brilliant one.

Moral courage is the most valuable and usually the most absent characteristic in men.

What damn good is a general who won't take the same risks as his troops?

Always give credit where it is due.

Loyalty is a two way street.

Punishment for mistakes must be immediate.

In closing, I believe that the best, most succinct way of summing up General Patton's thoughts on preparation for war would be to quote one of my favorite Patton-isms;

“The only thing to do when a son-of-a-bitch looks cross eyed at you is to beat the living hell out of him right then and there.”

I would like to thank you for inviting me to speak here today. If we have some time left, I should like to entertain any questions that you may have.