

COMMENTARY  
ON A  
NEW DEVELOPMENT  
IN  
ARTILLERY

By J. M. RIBOUD

Introduction by Lt. Col. John E. Coleman, FA

In modern warfare, light artillery is faced with new problems, unknown in the last war. The purpose of this note is to offer a solution for some of these problems. It does not deal with conceptions of grand strategy but with simpler and more earthly questions such as digging in, camouflaging, traversing the gun, bringing ammunition and so forth. These are the tasks faced by the men in the field. Though less often discussed, they are no less important than strategical theories.

## FOREWORD

Tactical developments of this war have emphasized the importance of open-mindedness on the part of all officers and enlisted men on the battle fronts. Eternal principles of war have not changed, but their applications have been subject to innumerable variations. New and novel methods have had to be employed, some of them harking back to our early days of Indian fighting.

An identical flexibility is required in any consideration of equipment. Special insect- and rain-proof hammocks were devised for protection from jungle insects. Such a practical approach is no less important when dealing with protection from the enemy's own bite and sting, and when planning how best to do unto him what he would do unto us. If casualties from illness must be prevented, how much more important it is that protection be afforded from bullet, bomb, and shell.

Mr. Riboud has approached this problem with the advantages of broad experience. He thoroughly knows the tactical problems involved, for he fought through the Battle of France as a reserve officer of the French Artillery. His analyses of these aspects are sound, they are borne out by events on every front. In working out his solution in a practical manner, he adds to this background the training of a skilled engineer.

Thus Mr. Riboud is able to "see over the hill," to appreciate the details as well as the broad problems involved. In a sense he is able to throw the ball and catch it too: certainly, he well knows both ends of the ordnance—artillery trajectory, in addition to having been thoroughly exposed to both ends of the purely artillery one. His suggestions well warrant close study and attention.

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# I—LIGHT FIELD ARTILLERY IN MODERN WARFARE

After the fall of France, some military experts unhesitatingly predicted the disappearance of the Field Artillery "dethroned forever by tanks and airplanes." They completely overlooked the fact that in Poland and in France field artillery had been more efficient than the much advertised Stuka. It has been repeatedly demonstrated since then that emplaced field guns, used in indirect fire, were as necessary for destruction, barrage, etc., and played as big a part today as they did twenty-five years ago.

There is a difference, however; the difference is that the gun has a *new foe* which it had never seen in battles of 1914-1918 and with which, so far, it has been unable to cope on even terms. This new foe is the tank. Against it, the field gun must still rely upon anti-tank guns, land mines, or what natural protection it can find.

But, one may say, "if the field gun is not fitted to fight tanks, why pit it against tanks? Should not the *rule* be to keep the field gun *behind* the *front* line and out of reach of tanks"? The trouble is that tanks do not observe the "*rule*," any more than they respect the "*front line*." On the contrary, they seek out field batteries knowing that, once the field guns are destroyed, the infantry will be easy to chew.

Then, how is it that field guns cannot do better? After all, they fire heavy missiles and, although their muzzle velocity is not quite as high as desirable, few are the tanks which recover from a direct hit of a 75- or a 25-pounder. The reason is, simply, that gun mounts, as we know them, are admirably fitted for *indirect* fire, but *not at all fitted for battling tanks at a few hundred yards*. The deficiency does not come from the ballistic properties of the gun, but from *the fact that the gunners are either killed or forced to duck* (and therefore are unable to serve their gun) before they have had a chance to hit their target.

This had appeared in full light during the campaign of France and was confirmed in Libya and in Russia.

No one who has served a gun in this war or studied the reports from the battlefield can deny that modern warfare has brought a problem not only for the field gun but also for the antitank gun. A careful analysis of the cause of inferiority of the average ground gun-mount leads to the outlining of certain requirements which, if met, would reverse the situation completely and make the gun the *master of the battlefield!* These requirements are:

1. The cannon must have a *high muzzle velocity* and a *rapid rate of fire*. The higher the muzzle velocity, the greater is the piercing power. Furthermore, in fire at sight, the flatter the trajectory, the greater the accuracy, because it is less affected by error in appraising the range (and the error may be considerable) and the movement of the target. But all this is very well known, so we will not dwell longer on the subject but will give more attention to the following characteristics which all pertain to the carriage.
2. The gun must be mounted on a *very mobile carriage* enabling it to be fired as soon as the tractor has stopped and *without* having to be *uncoupled*.
3. The three men who serve the gun must be *protected*, frontally against armor-piercing small caliber projectiles (20-mm.), and all around against splinters and small arm fire.
4. It must have *small over-all dimensions* and require a *small pit*—this being necessary for being *quickly dug in*, easily *concealed* and well *protected* against mortar fire.
5. The gun must have a *360° traverse*, be easily swung at a great angle and aimed at a moving target.
6. It must have a *low silhouette*.
7. It must be of *reasonable weight* and *easily moved by hand*.
8. It must be capable of antiaircraft fire ( $80^{\circ}$  elevation).

It will be shown in these pages that each one of these characteristics is necessary in order to correct corresponding deficiencies and that each one is readily deducted from *actual* reports.

## I—THE GUN HAS A DUAL ROLE OF FIELD ARTILLERY WORK AND ANTITANK ACTION

The primary role of the field gun is barrage, destruction, counter-battery. All these missions are nearly always accomplished by indirect firing from masked positions. To back an offensive the current practice, not very different from that of the last war, is to neutralize the enemy resistance by artillery fire, so as to allow infantry and armor to get close to enemy positions and storm them. In a defensive situation barrage by artillery fire will stop enemy infantry.

The use of the field gun against tanks by fire over open sight, at close range, is wholly recognized, too.

"Defense against attacks by armoured fighting vehicles must always be considered in the selection of gun positions and it must be borne in mind that the field artillery forms part of *the general antitank lay-out for the area in which it is located.*\* At halts and in bivouac it may be necessary to site a single gun for local protection. This ground defense must be coordinated throughout the unit, and later throughout the whole formation area. In the event of a breakthrough by the enemy, the gun position and the L. M. G. positions will form rallying points for the infantry. In the absence of other orders, these points will be defended to the last round."—"Current British Doctrines," War Office, *The Field Artillery Journal*, October, 1942.

"Basic means of disabling tanks and of repelling tank attacks is artillery fire at pointblank range. . . . Actual fighting experience showed that these guns were enveloped in a whole mass of artillery which without exception was drawn into active operations against enemy tanks. At present, *the principle that all artillery is antitank* artillery prevails unchallenged. . . . The tendency of German panzers to strike deep into the defenders' formations and encircle his units *piecemeal necessitated* organization of deep antitank defense to deprive enemy tanks of their maneuvering possibilities. The antitank defense center and antitank area have become the basis of antitank defense. The antitank defense center is built around the artillery formation which forms its backbone."—"The Development of Soviet Antitank Defense," by Lt. Col. I. I. Alexeyev, *The Field Artillery Journal*, November, 1942.

\*Emphasis by this author, both here and in other quotations.—J. M. R.