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TITLE: AN ANALYSIS OF THE INFANTRY-TANK SITUATION

SCOPE An attempt to illuminate the efforts required to formulate a definite combined effort betweenthe infantry and tank arms during World War II. A summary of our accomplishments in relation to our future planning.

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AN ANALYSIS OF THE INFANTRY-TANK SITUATION

Now that World War II is over and we have had some chance to look back over our accomplishments, it is time that we examine the efforts that were required to bring about our victory. We might ask ourselves whether or not our tasks might have been lightened in some way and whether or not all of our efforts were uniformly directed toward the same objectives.

In order to stay within the realm of the writer's experience, let us confine ourselves to an analysis of infantry-tank cooperation only. The mutual support between infantry and tank units will serve as an illustration of the advances made in coordination between all arms.

We have long been aware of the need for close cooperation within our armed forces. Organization since World War I has been altered several times with this requirement in mind. We are well aware of the fact that the presence of this coordination within a unit is generally the determining factor between victory and defeat, and that the latter became almost a reality in the early days of World War II. Has World War II altered our previous concepts of coordination among arms?

Looking back a few years prior to 1945 we find that infantry-tank coordination was not practiced in many organizations and in others there was only a remote application of its principles; these units were practicing only a temporary form of the principle, applying it sporadically as the individual situation demanded it. In view

of the tremendous efforts applied during World War II toward developing the infantry and tank arms into a team of combined effort, many of us from time to time marveled at the lack of information available on this subject. Were there not infantry-tank actions prior to World War II? Seeking an answer to this condition, we find many illustrations of its importance among the military. Napoleon's Maxim 47 tells us that "Infantry, cavalry and artillery can not do without one another." Maxim 89 states, "A desire to save the cavalry until the end of the battle shows ignorance of the power of the combined charges of infantry and cavalry, either for attack or defense." We were certainly not lacking in precedent then but what about the mechanics of its application in modern war? Just prior to the past war, General Waldemar Erfurth, in his book Surprise in War, told us that "Success in war usually goes to the side which uses its power in a premeditated and coordinated way." During the same period, Field Marshall General Ritter von Leeb elaborates on this theme and applys the principle of close coordination to present day usuage by saying:

> "Coordination of all arms and means is a basic condition for full utilization of every defense possibility. In our war experience, 1914-1918, we learned the meaning of close cooperation amongst all infantry arms and between artillery and infantry. But before an enemy equipped with strong armored forces, this cooperation is no longer sufficient. It now must be augmented by a unifom

plan of anti-tank defense; employment of all means of reconnaissance, use of artificial obstacles of all kinds, combined use of all offensive arms, the preparation and use of reserves, armored units, aviation. Not one arm alone nor one method by itself brings decision. Cooperation amongst all of them is necessary." [1]

From the foregoing then, we can assume that the close coordination between infantry and tank units during World War I was considered satisfactory as it stood and that further development was not carried out to any great extent during the peace years to cope with the new developments to be expected in future wars.

It was not until our first fire-fight in 1942 that we discovered that we had not placed enough emphisas on the specialized type of training required for coordination between arms in this second world war. The infantry and tank people had the necessary enthusiasm andspirit but not the training to produce the right reactions in combat. To Make a man react the way you wish requires months of intensive training.toI have seen many instances in the early phases of the past war whene the infantryman would have no part of the tank, considering it unpredictable in its actions. At the best it formed a bulwark between him and the enemy and that was about as far as his ideas of cooperation went. What the men inside the tank were doing, under what conditions, and to what purpose, he had not the slightest idea.

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1 von Leeb, Ritter, Field Marshal General, Defense, Harrisburg Penn: Military Service Publishing Company, 1943.

Before you could get the infantryman to work with the tank he had to know more about it. Before he could get in front of the tankand derive some benefit from its fire power he had to know that the people inside the tank could see him and were not going to cut him in on the target. The infantryman had to get used to the noise and size of the tank before he could be expected to work in its vicinity. The man on the ground in combat likes as little noise as possible and likes to keep away from objects that might bring him to the attention of the enemy. This basic make-up of the infantryman does not lend itself naturally to close support of a tank. This skeptisism and apprehension had to be overcome before any degree of infantry-tank cooperation could be realized. The infantryman has to be taught over and over again that the tank can help him and that its express purpose on the battlefield is to that end. It is unfortunate that this is a precept difficult to convey to a man in a classroom. This phase of the soldier's instruction must be in the field with the tank. He has to findout for himself that it will work. If he maintains the feeling that he can get along a little better without armor, all instruction in classrooms to the contrary will not make him think any different. I would like to stress the fact that this condition mentioned here is not due to any lack of courage on anyones part; nor is it a one-sided condition. Many tank people knew so little of the infantry arm that close cooperation often failed completely. As late as 1943 the infantry-tank teams were being set up on a day-to-day basis under combat conditions. There was a definite lack of technique in the field of infantry-tank coordination in the early war years that was preventing our employing

the team-play that was so urgently needed.

The in-fighting experienced in the opening days of the war in the PACIFIC brought home the requirement for more effective infantry-tank coordination. Thus, in 1942 and 1943, armored people in that theater were faced with the problem of adapting their arm to the situation at hand. GUADALCANAL was our first testing ground and we found our concepts of close cooperation and combined action vague in most respects. Therefore, a rigorous infantry-tank training program was initiated which continued throughout the war and is still in effect. Although theactual details of the training differed with each unit, Marine or Army, the basic concepts were the same; that of instilling in every member of the unit the importance of confidence in and knowledge of their supporting arms.

Our attempts at obtaining infantry-tank cooperation were not confined exclusively to the personnel training phase. Communications has been,and always will be, a key factor in any attempts at coordination. Although improvements have been made in this field among the various arms, there still exists a weak link between the infantryman on the ground and the tanker buttoned-up in the tank. We have the AN/VRC-3 radio and the infantry-tank telephone but these can be improved upon. The AN/VRC-3 mounted in the tank turret furnishes communications to the infantry platoon leader but not to the squad or fire team in immediate support of the tank. I feel that the turret of the present day tank, and probably the tank of the future, is too complex in design and the duties ofthe crewmen too numerous and exacting to enable them to operate a set such as

the AN/VRC-3 in combat. As for the infantry-tank telephone, this is too often a one-time-user. By this I mean that it is frequently damaged early in the action by enemy activity or by our own people. A man can not very well remove the phone without exposing himself to enemy fire. The cords are too short to enable him to talk from a place of safety, and getting the phone back into the box in the proper manner is too time consuming to be healthy. We all know that the presence of the tank in close support of the infantry is a definite aid to our people and so does the enemy. Therefore, operating a telephone on the bustle of a tank from an exposed position is an assignment that few men would look forward to with any degree of anticipation. It is understood that experiments are being conducted to improve the telephone by lengthening the cord and by installing a retracting device. This will be a great help; however, a study might be conducted toward re-locating the phone box to a position whereby a man can reach it without exposing himself unnecessarily. I feel that these two types of close-in communications will be subjected to marked improvement in the future and will prove a contributing factor to more effective infantry-tank cooperation.

Another feature that saw many improvements during the past war was the tank itself. Some of the changes have provoked much argument in regard to ~~the~~ development tendency toward the addition of armor along with the increase in caliber of the main armament; the end product being a vehicle weighing over forty tons. Being most concerned with the type tank that will be assigned the infantry division in the close support role, we might ask what sort of tank do we want? Armored people agree that

the tank in support of the infantry must be heavily gunned, mounting a flat trajectory weapon of a caliber capable of a telling effect on the most formidable targets, thence all the muzzel velocity the breech assembly and mount can stand. The main armament must be of a design facilitating a high rate of fire. The complete round must be of such a weight that a man can load it efficiently for a long period of time. If such a weight specification is not feasible, then there should be an automatic loading device perfected to offset this very definite limiting factor. The main armament ammunition should be stowed in quantities sufficient to keep the tank in action a reasonable length of time based on the average resupply capabilities of the tank battalion. These two factors are under development at the present time. The armor should be capable of sustaining hits from small arms fire but not of such thickness and weight as to restrict the free movement of the tank over adverse terrain. At this point we find the fly in the ointment. The argument over the weight and armor charecteristics of the tank hinge upon which is the lesser of two evils. We can not have heavy main armament without weight since our armor serves a two-fold purpose, that of protection and structural stability. There being no argument in favor of diminishing the fire power, steps are being taken to reduce the ground pressure of the tank by re-design of the suspension system. Out present M-26 tank, although heavier than its predessors, can boast less ground pressure thus less restrictions due to its weight. For the benefit of those that might consider the tank of today to be invulnerable to other than specially organized

tank-killer teams, let them be reminded that this past war saw the development of hand carried weapons for our infantrymen that can penetrate anything we have in the way of armor today, and there is every reason to believe that this balance of power will not be changed. The infantry tank still must depend on its fire power, maneuverability and infantry support to remain in action. It is still the tank that has the punch in its main armament and gets in the first telling shot that can give the infantryman the support he needs. The requirements mentioned above for the infantry tank have been in effect for sometime and we are beginning to see results in the form of the M-24 light tank with its proposed heavier armament.

The present tank engines, although still in the development stage, have proven themselves adequate if not outstanding. However, from an infantry-tank cooperation viewpoint the exhaust noises are excessive. Design changes have eliminated most of the noise in our suspension systems but we are still faced with engine exhaust noise. This is not only undesirable in night movements and in other situations where the tank may be heard and not seen, but it also hinders the employment of the supporting infantry. Voice communication within the team is less effective when the tank is in motion. Starting a tank engine at night in close proximity with the enemy was almost a positive indication that mortar and sometimes artillery fire would soon be coming in. Efforts underway at the present time to increase the power output of our tank engines might permit installation of more effective muffler systems to reduce this exhaust noise.

We now have a very effective addition to the infantry-tank team in the form of the flamethrowing tank. No one has to sell the merits of the use of flame against a determined enemy. This type of tank will be available to the tank battalion of the infantry division. The flamethrower tank we know today has proven itself effective but it is still not an efficient weapon in its present stage of development. There are definite requirements for a conventional tank mounting a device capable of laying flame on a target at a range of at least one hundred and fifty yards. Attempts should be made to procure a flame producing agent that can be carried in sufficient quantity to eliminate the weapon having to be replenished more frequently than the gun-mounted tanks. There can not be sufficient flamethrower tanks in a tank battalion to keep the present capacity flamethrower in the action as long as desired. Study might be conducted towards producing a flame producing agent that will expend more of its energy on the target.

During the course of our analysis, I have attempted to illuminate the more important phases in the development of infantry-tank coordination. The lack of information on this subject set down in writing after World War I placed us in a position whereby we were forced to develop our doctrine during actual combat in World War II. By maintaining high training standards within our units today and by devoting all of our efforts toward adapting ourselves for future conflicts we will have learned our lessons well.

We are now in the prossess of reorganizing our forces along the lines of employment envisaged in wars to come. We must never lose sight

of the need for this type of planning. Our objectives should be established with an open mind. There is every liklihood that our equipment will undergo many changes but the quality of our manpower will remain a constant factor. Training of these men will continue to be the primary purpose for the existance of our Regular establishment in the military. By utilizing the lessons of World War II and applying them in our planning toward the future we will have justified the responsibilities placed on us as officers in the service of our country.

We must learn from the past but not become so emeshed in its study that we sacrifice development and further advancement in military techniques. History is full of instances where a nation has fought a war and been victorious but then has failed to achieve the true fruits of its victory by its complacent outlook toward the future. Armold J. Toynbee, a noted historian, stresses this fact in a discussion of The Nemisis in Warfare by saying:

> "The presumption that, because a faculty has proved equal to the accomplishment of a limited task within its proper field, it may therefore be counted on to produce some inordinate effect in a different set of circumstances, is never anything but an intellectual and moral aberration and never leads to anything but certain disaster."[2]

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2 Toynbee, Arnold J., A Study of History. New York & London; Oxford University Press, 1947. (Abridgement of volumes I-VI by D. C. Somervell)

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