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ATOMIC WEAPONS AND GROUND COMBAT:
Search for Organization and Doctrine

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ATOMIC WEAPONS AND GROUND COMBAT:
Search for Organization and Doctrine

It is now more than eight years since the atomic blasts at Hiroshima and Nagasaki announced an impending revolution in war methods. It was clear from the start that this was no ordinary development. Unlike earlier weapons which required years of development even after they appeared, the atomic bomb, as Captain Cyril Falls observed, was a virtually "complete" weapon when it arrived. The U.S. Strategic Bombing Survey suggested almost immediately that the context in which all forces would be employed in an atomic war required "radical changes" in equipment, training and tactics. Writing four years later, Major General James M. Gavin used almost the same language saying that "if an H-bomb is developed and A-bombs become available for tactical employment, we should realize now that this will radically revolutionize land warfare." In the autumn of 1951, Gordon Dean of the Atomic Energy Commission pointed out that "our fundamental concepts of what atomic warfare is and what it might mean to us must undergo revolutionary change." Speaking before the Assembly of the United Nations on December 8, 1953, President Eisenhower said that "the United States stockpile of atomic weapons, which, of course, increases daily, exceeds by many times the

explosive equivalent of the total of all the bombs and all the shells that came from every plane and every gun in every theater of war through all the years of World War II." He added that "in size and variety the development of atomic weapons has been no less remarkable."

For better or for worse the Air Force developed a weapons system and doctrine for the employment of atomic weapons in strategic air war in the period after 1945. This was no mystery and its pros and cons were debated with conspicuous frankness in the B-36 and the MacArthur hearings. We have had no such detailed revelation of the reaction of the ground forces to the "revolution" which seemed to have been pending in its organization, equipment, and doctrine since 1945.

This does not mean to imply that the Defense Department has been slow to concern itself with the problems of atomic weapons and ground warfare. We have abundant grounds for assurance that it has been about its business with promptness and energy. The results of its work are not always visible to the public, for it is not in the national interest that all aspects of our weapons systems and strategies be discussed in unclassified publications. But there is an area in the field of doctrine and organization in which no amount of free discussion can benefit the enemy. It is in this field that we cannot rely entirely on the operations analyst and scientist, valuable as their contributions may be. There is a tremendous reservoir of practical experience in the officer corps of the Army. These men have a great deal to contribute, for sound doctrine and organization can only be achieved through the give and take of open

discussion between men with different experiences and skills. It is the purpose of this article to stimulate this kind of discussion.

In an article in the February issue of COMBAT FORCES JOURNAL, remarkable for its clarity and insight, Lloyd Norman called attention to the dangers and weaknesses of a national policy which emphasizes air atomic power at the expense of the ground forces and the navy. Some readers may feel that he should have gone farther in stressing the implications which the "massive retaliation" policy may have in the day when the Soviet Union has relatively equal air atomic capability. But it is not enough merely to set forth the perils of present trends without systematically considering alternative strategies and policies and without offering some idea of the weapons systems which are to implement them. One must do more than warn against concluding that "ground fighting is now outmoded" or that "machines can never really replace men on the battlefield." Sooner or later one must deal with the 64 dollar question: What preparations

have been and are being made to prepare the ground forces for employment in the day of atomic plenty?

Mr. Norman's article gives his opinion of the time table involved. He writes that in 1950, five years after Hiroshima, "Army planners realized that atomic weapons and guided missiles would change the nature of future warfare." Then, later in his article, he suggests that it may be 1958 or 1960 "before the atomic age infantry will appear." In other words a fifteen year delay may have to be envisaged between the advent of atomic weapons and the appearance of atomic age infantry. If this is to be the case, when may we expect to have a doctrine for the effective employment of these forces and atomic weapons in ground operations?

In the March issue of COMBAT FORCES JOURNAL, Walter Millis raises further questions about the wisdom of basing national policies and strategy primarily on atomic weapons. He warns that they cannot be considered as fully "conventional" in our ground forces until we can reduce the artillery, armor and infantry components which hitherto provided their main source of fire, shock and staying power. He questions the wisdom of hurrying atomic weapons into tactical use by suggesting that in a period of Soviet inferiority in numbers of atomic weapons, their employment by our side in the ground defense of Western Europe or some other vital area, may force the Soviet Union to reply by expending their smaller stockpile on American cities. Thus he fears that an attempt to bring atomic weapons back to the battlefield may merely insure bringing them back to the cities. By stressing the belief that in a symmetrical atomic air and ground war,

we may need more, not fewer soldiers, Mr. Millis sees a confirmation of the value of Soviet manpower numbers.

After reading Mr. Millis's thought-provoking article, one is forced to ask the following questions: Unless it is able to employ an atomic ground capability against a Soviet invasion by conventional or atomic ground forces, especially at a time when the Soviet Union holds over the heads of Europe and America the blackmail threat of atomic attacks on our cities, how is the West to defend itself?

If the American capability for waging strategic air war with atomic weapons has exerted a powerful deterrent effect on the Soviet Union, may we not assume that a ground atomic capability would add to this deterrence?

Atomic weapons, like the airplane and the weather are here to stay. If we do not develop a ground atomic capability, we run the risk that in time the Soviet Union may do so. If we judge by their ideology, objectives, and past methods, this application of atomic energy to war purposes would be "doing what comes naturally." Of what use would mere numbers of soldiers and conventional weapons be in the face of this development?

After the advent of atomic weapons, one should have anticipated that our military periodicals would be filled with articles exploring the implications of this development. This has hardly been the case. Perhaps the Korean war, with its exclusive use of conventional weapons has diverted attention away from the tactical employment of atomic weapons, and so added several years to the time lag involved in the transfer to advanced weapons. If that is the case, it may turn out to

be the greatest gain the Communists will draw from the Korean war. Be that as it may, the fact remains that comparatively few articles have been written by military men on the tactical employment of atomic weapons. Why is this? Why have ground force officers in particular been slow to make their views and opinions known?

As Professor I. B. Holley, Jr. has written:

"Even the most cursory survey of military history substantiates the premise that superior weapons give their users an advantage favoring victory. A somewhat closer study of military history shows that new and more effective weapons have generally been adopted slowly in spite of their obvious advantages. Since the character of modern weapons is such that their production as well as their use can dislocate whole economies, it is probably not too much to suggest that the survival of entire cultures may hinge upon an ability to perfect superior weapons and exploit them fully."

In order for a weapon to attain its maximum effectiveness three things are necessary. Military leaders must recognize its capabilities and potentialities, forces must be adapted to employ it, and a doctrine must be developed regarding its use. It would appear that although we have or will have atomic weapons for tactical employment, we lack forces adapted to their use and a doctrine covering their employment. Here is where the active participation of ground force officers and men is required.

There are many understandable reasons why soldiers have been reluctant to "go out on a limb" in print about a matter like the employment of atomic weapons in tactical operations. Since no one knows what war will actually be like under these conditions, the writer runs a certain amount of risk that his views may look bad in retrospect. In earlier days one could offer official secrecy about

atomic weapons as an excuse for inaction, but that is hardly possible now. Enough literature is available and unclassified to get at the essentials. To judge by the statements of President Eisenhower and Gordon Dean, the day of atomic plenty is dawning if not already here. Therefore no officer can at present pretend that he does not have enough "facts" on hand to begin a study of the effects of atomic weapons on ground force operations.

The few books and articles written by ground force officers on this subject in the period from 1945-1954 show that they have operated upon the assumption that very few atomic weapons would be available for tactical operations after the requirements of strategic air operations were met. This may have encouraged them to look upon atomic weapons as just another limited addition to an already large arsenal at their disposal -- and not as a weapon which might itself revolutionize ground warfare. It may account for what on the surface appears to be an effort to fit atomic weapons into existing ground force organization and doctrine with a minimum dislocation. This is the traditional way of armed forces with new weapons and accounts at least in part for the astonishing time lag which has accompanied the exploitation of new weapons in the past.

In the period of transition from high explosives to atomic weapons, there is a great danger that these new weapons will be farmed out to existing organizations and that the public will assume that this constitutes preparing for atomic war. One suspects that a strange hermaphrodite creature, half HE and half atomic will emerge having all the limitations of the former with only half the potentiality

of the latter.

Rather than trying to save as much as possible of existing institutions and organizations, it may be helpful for ground force officers to hammer out some kind of hard and detailed answers to questions of the following kind:

1. How can targets be found and attacked with atomic weapons by ground force organizations with the minimum delay?
2. What is the most advantageous size for a self-contained combat unit which can utilize atomic weapons in a ground campaign?
3. What kind of specialized training will be required and what kind of command structure can control the operation of many of these units when widely dispersed or in rapid movement?

The limitations of a less drastic approach to the problem are illustrated in the book recently written by Colonel G. C. Reinhardt and Lt. Colonel W. R. Kintner entitled: Atomic Weapons in Land Combat. While these officers deserve highest commendation for their pioneer effort in this field, it suffers under the handicap of assuming that the next war will be fought by World War II type organizations such as regiments, battalions, and divisions, and that they may employ a few atomic weapons now and then as weapons of opportunity along with conventional types. The authors pay some attention to the need for dispersion, concealment and mobility, but when the chips are down, they speak primarily in terms of World War II experience. In their efforts to reassure ground force readers that the problems of atomic war can be mastered, the authors may have unintentionally conveyed a misleading impression of the survival possibilities under atomic

attack of ground force organizations employing World War II numbers, weapons and logistics. They have also, perhaps unwittingly, helped to strengthen the existing impression that atomic weapons are and will continue to be low powered, very expensive, limited in numbers, and difficult to obtain.

The framework in which Reinhardt and Kintner foresee the application of atomic weapons to ground force operations (p. 39) is one in which they will be used to perform tasks which cannot be handled effectively by conventional weapons. The supply will be too limited and these weapons will be too "valuable for expenditure on area targets or blanket interdiction." Need is seen (p. 55) for specially-trained forces to service and deliver the weapons but our main reliance must be placed on "many divisions backed by adequate tactical airpower." Then, in a rather astonishing follow up (p. 56) it is insisted that these "divisions must possess the mobility of command, and the organization and training to survive hostile atomic attacks." How is this to be achieved? Certainly not by giving our "divisions" (p. 147) discipline and mobility at least equal to that of the elite divisions of World War II.

Even if it were possible for an old fashioned division to survive in the day of atomic scarcity -- which is open to doubt -- their use on the battlefield in the day of atomic plenty would seem to invite disaster. One can only hope that Colonels Reinhardt and Kintner will try their hands at writing a new book based on the assumption that atomic weapons will be plentiful enough in the future to fight through an entire ground campaign without being forced to

rely in any important way on HE for fire and shock power. Such an effort might lead them to the conclusion that an entirely new type ground combat organization is required. It might also force them to work out a basic doctrine for the employment of atomic weapons in land warfare, not as weapons of opportunity, but as the main source of shock power, not as something to exploit the power of the infantry but as something whose power the infantry might exploit.*

When anyone gets to this point in a discussion of the implications of atomic weapons for the United States, Korea and Indo China are mentioned and there is an anvil chorus of objections all ending with the refrain: we can't afford to dismantle our conventional military organizations at this stage and rely on an untried weapons system. One could list these objections -- and what I think are fairly convincing counter arguments if space were available -- but all this rhetoric will not alter the fact that a great technological revolution is pushing us in the direction of advanced weapons, whether we like it or not. We must consider the advantages as well as the risks involved. As for relying on "untried weapons," it is helpful to recall Bernard Brodie's observation that "all weapons are untried" as far as atomic warfare is concerned.

There are reasons to believe that the introduction of atomic weapons into ground force operations will offer advantages to the United States and to our Allies. We have shown in the past a remarkable aptitude for solving the engineering and logistics problems

* It may be worth pointing out that the British Defense Ministry's White Paper of February 1954, speaks of employing conventional forces to exploit atomic and advanced weapons rather than the other way around.

of modern war. We should be able to produce machines which would give small, well-trained atomic ground forces a mobility and radius of action undreamed of in World War II. Such ground forces could exert a fire or shock power dwarfing that of army groups in earlier days without being burdened by vast weights of high explosives. The mobility and radius of action which could be achieved by investing this saving in weight in new machines for transporting men and supplies cross-country should be great enough to revolutionize war plans. If we free ourselves from dependence on roads, movement and surprise will be restored to the battlefield. Being specialists in confusion, we should not be the ones to worry if the old familiar war of lines disappears in the interaction of widely dispersed small units. We do not have to insist on wooden and rigid controls. We can trust our people!

Since no one knows what form and character ground force operations will take in the day of atomic plenty, it is highly desirable that something be done to reduce the delay involved in finding out. In the absence of knowledge and lacking the resources of the operations analyst, one must begin by resorting to speculation. This speculative effort might well be divided into two phases. In the first phase, an attempt should be made to establish the organizational requirements of a ground combat unit capable of employing atomic weapons and having in addition as many of the following capabilities as possible: (1) rapid movement across terrain (2) air transportability (3) maximum dispersion and radius of action (4) operation in a flankless frontless war (5) expending its own atomic weapons

with minimum delay on air and ground targets in its area (6) close cooperation with tactical air.

If all these capabilities cannot be built into a single new organization, and it is unlikely that they can, then the best compromise possible should be accepted. Once a combat unit designed exclusively for atomic operations has been devised, one can move to the second phase during which efforts should be made to play frontless and flankless campaigns in map exercises and war games in the environment of atomic plenty. If nothing else presents itself one could begin with Rommel's campaigns of November 1941 and June 1942 in the Western Desert. These exercises would show, I think, the need for a command structure which can keep track of a battle of confusion and which will allow decisions to expend atomic munitions to be made at the lowest echelon possible. They may also show that a start on the tactical air support problem cannot be made until after the nature of the ground force atomic units and the doctrines governing their employment have been worked out.

Ground force officers should not be discouraged by the magnitude of the overall problem, frightening though it may seem. Fortunately there are limited segments of the overall problem which may be handled separately. Fortunately also they are in the general areas in which the United States has shown special skill in the past. If someone could, for example, devise a target acquisition and fire control system which would give our atomic combat units the capacity to bring their shock power to bear on a target area a few minutes faster than the enemy can, that alone might decide the outcome of a

future campaign -- or war. Similarly the perfection of a communications system which would be 20 percent more dependable, faster than that of the enemy, and impervious to counter measures, might have the same value. There is also the field of camouflage and concealment, together with provisions for misleading the enemy as to the location of our own units.

Little is to be gained by dealing with the atomic weapons problem as if it were the principal cause for inter-service rivalries. Nor is there much to be happy about in dwelling on the limitations of an air atomic strategy, unless the organization, equipment, and doctrine exists for the effective employment of atomic weapons in tactical operations. Above all it is not helpful to imply that one strategy or arm of the service somehow is convinced that men are not important in war. Sir Winston Churchill, after a lifetime of study and participation in military matters, summed up the problem when, receiving the Chesney Gold Medal from the Royal United Service Institution in July 1950, he said:

"You cannot help men who have had experience and handled matters, after ten or fifteen years of peace having rooted in their minds the strong impressions which they derived from the actual conduct of operations in the field. That is of the greatest value because, in the main, war consists of the same tunes played thru the ages... But it is of the utmost consequence that, besides cherishing the fruits of experience, everyone's mind should be open to the ceaseless and almost baffling

rapidity of the changes which science is introducing into the whole field of war, into every aspect of it...

"Above all we have this intruder -- the air, which has shoved its way in and continues to push forward in all directions...until a lot of people begin to think that there is only one pebble on the beach. That would be going too far because I am quite sure of this, that when all modern science has been exploited and employed, and when all the worst that can be done has been done in some terrible encounter, which pray God may never occur, but if it should be so, still the life of nations will depend on the spirit, the courage of their race and of their men and women... [This] will be the final decider of the life of nations, whether in a civilized or a barbaric world."

Since nothing clarifies ideas more effectively than an attempt to set them forth in writing, it is to be hoped that a number of ground force officers and men will express their ideas in print about the problems of ground atomic operations. That is the way that weapons, organization and doctrine have evolved in the past. As Mr. Norman correctly indicated: "the Army can offer no glittering promises in the dirty business of war," but it can speed the day when alternative atomic strategies and policies may be possible. It can do this best by analyzing the organization and doctrine of ground forces in the day of atomic plenty.