

LIMITS ON THE ATOM?

By Col J. O. Bell

✱ FOR SOME TIME, WE HAVE BEEN reading and studying about two types of wars: 1) general or all-out war, and 2) limited war with tactical atomic weapons. More recently, a third and much older type has come back into the picture and gained many advocates. It is limited war with no nuclear weapons—large or small.

At the outset, one thing should be made crystal clear. If our enemy chooses to use nuclear weapons, we will be compelled to resort to them also. Preventive measures must be taken.

This makes it pretty rough on us because we have to be prepared to fight on the enemy's terms without knowing these terms in advance. This is like being challenged to a duel with the challenger demanding choice of weapons, time and place. Although he is expert in all weapons, he refuses to state in advance

which conditions will be chosen. This leaves the challenged no recourse. He must get equally good or better weapons and learn to use them well. Money and time become critical factors. Such a situation grows painful when you realize that your enemy is getting stronger and better all the time. Finally, there may not be a fair and helpful countdown preceding the first shot! All this is known in our present world situation as the "lead-time" race.

To return to limited war, much has been written on the subject in recent months. The topic does provoke spirited discussion but there appears to be no general agreement on just what a limited war is. Moreover, employment of tactical atomic weapons in limited war continues to be uppermost in our thinking and constantly in the limelight.

At first look, the employment of atomic weapons appears most invit-

ing, and rightly so. With good intelligence and continuing tactical reconnaissance, judicious and timely employment of such weapons enables the user to pinpoint and destroy enemy strong points, troop concentrations, airfields and missile launching sites with great facility. Entire areas can be "sanitized." With tactical mobility never before achieved through the air and on the ground, Marines can land in more favorable areas. Troops and supporting weapons maneuver to positions from which the enemy can be hit again and again. Before he recoils from one blow, he is struck again from one or more different directions. In the end, the mission is accomplished in much less time with fewer casualties to ourselves. Marines will recognize this as part of our doctrine for modern amphibious operations known as the "vertical assault." This is the tactic made



possible by the helicopter. Some of us, however, tend to associate this doctrine exclusively with employment of atomic weapons because the helicopter made dispersion of the Landing Force possible. Dispersion was vitally needed both afloat and ashore because WWII type amphibious operations had long since been outmoded by atomic weapons. Nevertheless, it must be borne in mind that the helicopter greatly facilitates amphibious operations using conventional high explosive weapons. Vertical assault applies equally to both types of wars—nuclear or H.E. A helicopter-borne force capitalizes on speed, flexibility, and surprise never before envisioned in amphibious operations.

Advocates of limited nuclear warfare elaborate on the many such advantages. In addition, some have pointed out that:

- 1) Restrictions and agreements can be observed and enforced when employing tactical atomic weapons.
- 2) Limited war with atomic weapons will not necessarily touch off a thermonuclear holocaust.
- 3) Radiation effects will not be bad.

- 4) Without atomic weapons we will be hard pressed to counter mass attacks of enemy troops and armor.

At second look, however, the employment of atomic weapons in limited war may not be so inviting. Here are some important questions that might be considered:

- 1) What is limited nuclear war, or what is a tactical atomic weapon?
- 2) Can we agree with our prospective enemies what the upper yield limit will be?
- 3) In the event that we could reach such an agreement, what assurance have we that these agreements could be enforced: What is the penalty for violation and how is it applied? What happened with violations of the terms of the Korean Armistice Agreement?
- 4) Will we use tactical atomic weapons against an enemy who has none? If so, why?
- 5) What will be the range limitations on the delivery means, if any; i.e., can IRBM's be used to deliver tactical atomic weapons?
- 6) What would be the repercussions if some of our weapons proved

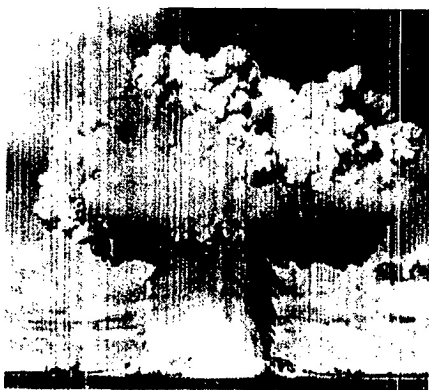
Col Bell wrote this article to encourage further discussion and to present the side of the subject that is less often voiced: "limited wars must be kept limited and discriminating firepower must be applied." A Marine officer since 1940, he has been in charge of Marine training programs in guided missiles at Johns Hopkins' Applied Physics Laboratory and the Naval Ordnance Test Station, China Lake, Calif. He is presently Marine LNO, Guided Missiles and Atomic Energy, OpNav.



to be unreliable, and accidentally struck a friendly nation?

- 7) What restrictions will there be, if any, concerning employment of atomic weapons around cities? Assume that we are fighting on foreign land in defense of a friendly power, that we have initiated employment of atomic weapons, and that our enemy has countered with atomic weapons with no particular regard to the effect on cities; what are the repercussions?

- 8) What is the likelihood that a limited nuclear war will set off a thermonuclear holocaust?



Who holds the answers to these enigmatical questions? Are there any to be found? The writer in posing them makes no claim to know the real answers, but raises them in the hope that constructive thinking will be stimulated and discussions will follow that will point up the futility of *initiating* the employment of atomic weapons in limited war.

Next, turning our attention to nuclear radiation and its effects upon man, other living things and our environment; we come up against what is mysterious and awesome to the man on the street. We have heard that nuclear radiation can hurt every living thing, causing sickness and death; that it can last for long

periods of time and make vast areas untenable for human life. Now we are beginning to hear more about another insidious effect relating to genetics—the effect on children born in future generations. This particular subject is thoroughly discussed in a recent unclassified report of OEG (Operations Evaluation Group) entitled, "The Effects of Radiation on Populations," which all military men should read. Here are some of the main points disclosed by this report in the Introduction and Summary:

"This report discusses the possible effects on present and future generations of the exposure of human populations to penetrating radiations. This subject is widely associated with the effects of nuclear weapons and has been the subject of much public discussion and opinion, not all of it accurate.

"Although the more severe local effects of a nuclear detonation, such as radiation death or radiation sickness are comparatively well known, use of nuclear weapons may also result in widespread and prolonged exposure of whole populations to radiation. For example, the detonation of a nuclear weapon in the northern hemisphere will raise the radiation level throughout the hemisphere with effects—which can be estimated—on the health and survival of both living children and those to be born for generations to come. These long range effects will not be confined to the enemy population; they will be felt by our own and that of our allies as well.

"... even very low levels of radiation can cause discrete hereditary units called genes to change, or mutate, and that eventually such mutated units will cause a death in a future generation. These genetic effects are unimportant if all those

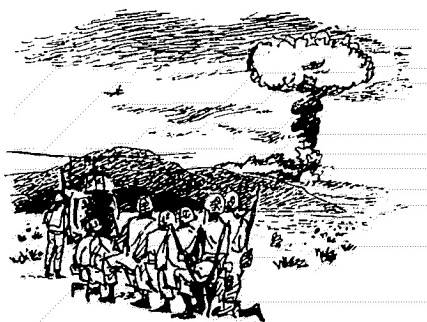
exposed to radiation are killed as a result of the exposure. But if those exposed survive, the less-than-lethal exposure may result in the serious impairment or death of some of their descendants for many generations. Even though under mild conditions of exposure the effect on the death rate in any one generation may be small, the cumulative number of deaths in all affected generations may be very large.

"Although the reproductive capacity of man is small, it is apparently sufficient to permit a several-fold increase in the mutation rate, and hence the radiation dose rate, for several generations without catastrophic effects on the population. Thus, peacetime levels of nuclear fallout or other radiation are probably not a real threat to the survival of man as a species. This reassuring conclusion may not hold, however, for wartime levels which may be sufficient to double or triple the rate of spontaneous mutation, and so completely upset the biological balance. (50r is one reasonable estimate of the amount of radiation needed to double the spontaneous mutation rate.)"

Spontaneous mutation referred to above is mutation from natural causes, a subject much discussed. Possibly the outcome would be as predicted by this report; possibly, less severe effects would result. Nevertheless, serious thought and consideration is indicated before em-

ploying nuclear weapons in war. The more we learn about radiation, the more it will affect our decision to use or withhold nuclear weapons in limited wars.

As to whether we would experience great difficulty in fighting a limited war against massive troop and armor attacks without atomic weapons, I think that military history can speak for itself. There are many instances



where units have held out against numerically superior forces. Marines are not neophytes in this field. They have stopped such attacks before, and can do it again. It simply requires a better fighting man, superior mobility, weapons, and equipment.

We already have some new, highly effective H.E. type weapons. We'll get more in the future, running the gamut from a new rifle to rockets and missiles—to say nothing of battlefield surveillance, target

location equipment, radars, integrated communications systems, and a whole host of other things to be used in the air and on the ground. Let us not deceive ourselves about the effectiveness of new H.E. weapons. They'll be well able to repel any kind of attack or support us adequately in limited warfare without atomics.

In summarizing, these are the main points to remember:

1) It is highly doubtful that nuclear weapons could be *limited* in limited war. The enemy's definition of limited nuclear weapons may not be the same as ours; certainly, the definition of limited nuclear weapons must not be confused with the definition of limited war.

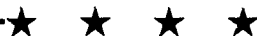
2) Radiation effects may be disastrous, not only to one particular country, but also to the future of mankind.

3) We must prepare to fight different types of wars with different types of weapons.

4) Our air, ground, and naval weapons development programs for limited war must produce at least two types of warheads for each weapon—atomic and high explosive.

5) We believe we can win any type of war fought with either atomic or H.E. weapons.

6) We recognize the serious involvements in *advocating* or *initiating* limited war with so-called tactical atomic weapons. USMC



Quick Time

☛ DURING THE LATTER part of 1950, many inactive reserves called back to active duty were assigned to Casual Company, located in the 16 area at Camp Pendleton, awaiting further assignment. The morning training schedule for the Casual Company called for a period devoted to close order drill. On one such morning, a young corporal was called upon to conduct drill. It was quite noticeable that he was very nervous. After receiving the order, the corporal faced the small formation of privates first class and privates, remaining silent for a few moments, and then in a loud voice commanded, "Close, Order, Drill."

AGySgt A. M. Courteau

In the Old Corps

☛ SHORTLY AFTER the 1stMarDiv's return from Korea in 1955, I was serving with the 3d Bn, 5th Marines as a company clerk. At the time, good clerks were as hard to get as the Medal of Honor and we were overworked trying to keep up with the changes during the reorganization period. One day we received a call from battalion headquarters informing us that they were transferring one of their clerks on to us. The First Sergeant, suspicious of the transfer and not one to accept a pig-in-a-poke, requested the man's SRB. After glancing at his record, the Top rushed into the captain's office and told him that he didn't think it wise to accept the new man.

When the CO, an old salt himself, questioned the Top's decision, the First Sergeant grumbled, "Well Sir, for one reason, the man is on mess duty. Why! The last time I can remember a clerk being put on mess duty was back around 1936!" The CO calmly looked up from his desk and asked, "How long were you on, Top?" We got the new clerk two days later.

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