

OPFOR position capable of engaging the man is suppressed by machinegun fire, he may well let the man complete his mission.

Start small. It would appear that the overwhelming majority of our combat units aren't ready for this type of training yet. It may even be necessary to start off with canned exercises. There is no tragedy in that. The tragedy is in never going beyond that. The canned exercise may be necessary to prepare the men for real training, just as real training is necessary to prepare them for war.

Don't let "safety" cover up poor leadership. If you have leaders who can be neither trained nor trusted to negotiate a realistic live fire exercise,

they simply don't belong in the Army. Get rid of them. In this sense, good live fire training can be an excellent tool with which to improve the quality of infantry leadership in the Army.

Remember that accidents will still happen. Accidents are the unavoidable cost of doing business in an intrinsically dangerous profession. I doubt, however, that well-trained troops undergoing realistic training will do more damage to each other than poorly trained troops undergoing poor training.

These suggestions are not pipe dreams. There is nothing that I have suggested here that I have not employed in live fire training myself. And I have never had a man injured or

killed on any of the several dozen such ranges that I have run. You can do as well or better.

The ogre of "safety" has ruled the Army for too long, distracting our attention, devouring our resources, emasculating our officers and men. The time has long since come to depose the tyrant and re-establish ourselves as warriors and men and our Army as a fighting team. This article is offered as a modest effort in that direction.

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Training Realism and Safety

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Many people in the Army have expressed concern over the performance of the combat battalions undergoing training at the National Training Center at Fort Irwin, California. This concern is, essentially, that these battalions do not always display the level of training and proficiency necessary for them to defeat the NTC's aggressor forces.

One explanation for these shortcomings is that the training the battalions get before going to the NTC is not realistic enough. And if it isn't realistic enough for the NTC's simulated battle, it isn't realistic enough for actual combat.

But *why* is the Army's training, in general, not realistic enough? A 1977 study conducted by SRI International (under contract for the Defense Advanced Research Projects Agency) blames, among several other factors, stringent safety requirements. That study says, in part, that "safety re-

quirements often make realistic training impossible," but that if the paramount safety requirements are ignored in the interest of realistic training, "the commander's career is in jeopardy."

There are at least six ways in which safety requirements can adversely affect training realism. They can:

- **Inhibit weapon firing.** For example, safety restrictions on hypervelocity tank rounds either preclude or greatly restrict firing this primary antitank round at most Army installations. The same is true for the 25mm gun on the M2/M3 BFV.

- **Break the continuity of action.** Too often in the conduct of a training scenario a unit must stop at an artificial phase line that exists for safety reasons only. During these stops, bores are rodded and the unit generally "steps down" for 15 minutes or more. The continuity and the dynamics of the attack are totally destroyed,

and realism is almost nil.

- **Restrict combined arms training.** Although the combined arms team is firmly entrenched in our doctrine, only occasionally is the concept fully employed in training. It is not employed because of the potential hazards involved in mixing infantry, armor, artillery, and aviation in a single training scenario.

- **Restrict the creation of realistic battlefield conditions and effects.** The use of such things as smoke, tear gas, simulators, and demolition blocks is often severely restricted in the interest of safety. Often artillery and mortar rounds have to be fired so far from the troops that they contribute nothing to realism and training value.

- **Restrict the application of tactical doctrine.** Fire and movement, overwatch techniques, and other fundamental tactical procedures are not easily adapted to live fire training

because surface danger zone criteria prohibit or severely restrict overhead fire and firing other than "on line."

• **Lock in conservative standards and procedures.** In some cases, rigid safety rules serve to discourage commanders from seeking innovative approaches to realistic training.

If these six effects of safety restrictions were absolutely essential in assuring a reasonable level of risk, there would be little or nothing that could be done to improve realism. The Army would simply have to depend on simulations instead of live fire or actual maneuver for realism.

Fortunately, this is not the case. Most of the effects described can be eliminated or at least alleviated by changing some of the outdated and overly restrictive safety procedures now in the Army publications. There are several areas in which changes could and should be made to improve realism without significantly affecting safety.

First, the Army could change its one-risk-for-all standards for surface danger zones and adopt instead a variable risk concept. Figure 1, excerpted from AR 385-63, depicts a typical surface danger zone. The shaded part shows the areas that must not be occupied while a weapon is being fired. The key point is that the shaded area is the same for everyone whether civilian (kids in schools and orphanages) or military (troops about to be committed to combat). (This is in sharp contrast to the Army's standards for the storage of ammunition and explosives. Here the Army establishes several levels of risk, and the highest risk to which soldiers can be exposed is much higher than the risk permitted for the public.) While it may seem commendable that the Army provides the same protection to its troops that it affords the general public when conducting range firing, the result is a severe restriction on realistic training.

Instead of a single, very conservative risk for all, a surface danger zone should show a series of risk levels. As depicted in Figure 2, the most conservative of these (ring 4) would be for

the general public (schools, churches, passersby). The commander would then be provided with empirically determined, progressively higher risk levels in the form of "risk rings" from which he could choose on the basis of a variety of factors — the experience level of his troops, their desired state of readiness, any special soil and terrain features of his area, and so forth. For those who question the propriety of exposing soldiers to a higher level of risk, it should be emphasized that the injury risk at even the highest level within these rings (x-ring) would be *below* that involved in other activities the Army routinely accepts without serious concern.

No one knows what criteria were used in establishing the current surface danger zones for most Army weapons as contained in AR 385-63. But that standard is believed to have been a one-in-one-million chance of a

skin-penetrating wound. Depending on the type of weapon, this could mean a one-in-ten-million chance of a disabling injury (since many fragmentation wounds are not disabling), and as little as a one-in-100-million chance of death. In fact, the Army has no record whatsoever of a disabling injury to anyone outside a surface danger zone from the effects of a properly fired, properly functioning weapon system.

One study of the relative risks for a variety of Army and non-Army activities reveals an extreme disparity between training risks, especially from weapon effects, and a variety of everyday risks that are routinely accepted — one death in 400,000, for example, from on-duty weapons-related incidents in 1982 compared to one in 2,500 from privately owned vehicle accidents. The obvious question is why do we insist on far higher

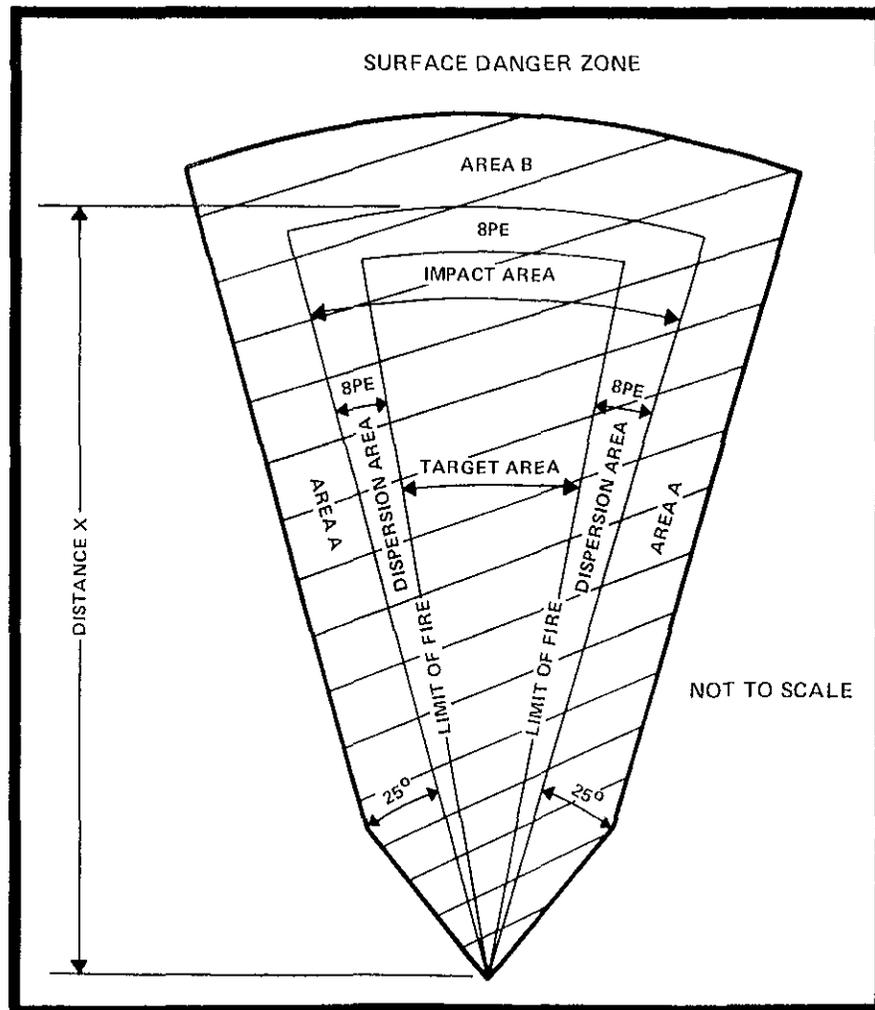


FIGURE 1. FOR MORTARS FIRING AT TERRESTRIAL TARGETS.

levels of safety in training, especially live fire training, than we routinely regard as satisfactory in our daily lives? The answer apparently is that we have never established reasonable levels of risk for training, nor have we ever categorized risks by type.

Clearly, a risk that does not produce any mission benefit has no place in an Army training situation. On the other hand, a similar risk that *does* provide a significant mission benefit may be not only acceptable but desirable. The prudent acceptance of such a risk in the interest of more effective training can obviously be beneficial in both humanitarian and operational terms. The key to success in balancing risks with potential benefits is that risk is increased only where it is necessary.

But what is the difference between

a foolish risk and a prudent risk? Exposing troops who cannot swim well to situations in which they could fall in the water without providing them with flotation devices or having immediate rescue capabilities is an example of a foolish risk. Nothing is to be gained from it in terms of realism. Allowing overhead fire from shoulder-held weapons, however, or fire from behind an advance position, is desirable in terms of realism because these fires would be routine in combat.

It is true that there might be a slight increase in the number of injuries and even deaths in training from this overhead fire, but these would probably be more than offset by better survivability in the unit's first week of actual combat. In other words, we should be willing to accept increased

risk in training when the payoff is high enough.

Another way to solve the safety-versus-realism problem would be to establish compatible safety standards for frequently conducted combat operations. Using, as an example, river crossings involving swimming the M113, as late as 1981 none of several manuals that deal with the subject (FM 7-7, 71-1, TM 9-2300-257-10) had complete guidance on basic safety procedures. In fact, a comparison of these publications revealed frequent direct conflicts on issues as critical as water entry speed, hatch configuration, and emergency procedures. As a result, the Army has had drownings in which the victims were poor swimmers or nonswimmers with no life preservers on board M113s that sank; they never had a chance. (The M113s sank usually because of poor vehicle swimming techniques.)

While some progress toward standardization has been made in this particular area, there are hundreds of similar examples in which casualties have occurred, both in training and in combat, simply because nobody had figured out the "right way" and made it available to the field. Much of the foolish risk-taking that occurs now could be eliminated by improving the standards. And this in turn would improve the climate for the acceptance of prudent risk.

The next step should be to limit accountability and sanctions against commanders to cases in which they took clearly foolish risks. Currently, most senior commanders don't consistently distinguish between training accidents that result from foolish risk-taking and those that result from prudent risk-taking. This attitude encourages battalion and company commanders to sacrifice training realism for the highest possible level of safety. After all, why should they be responsible for assuming a prudent risk if it is going to be treated the same way as a foolish risk when something goes wrong? Why take any risk at all if it could be damaging to their careers? The result of this kind

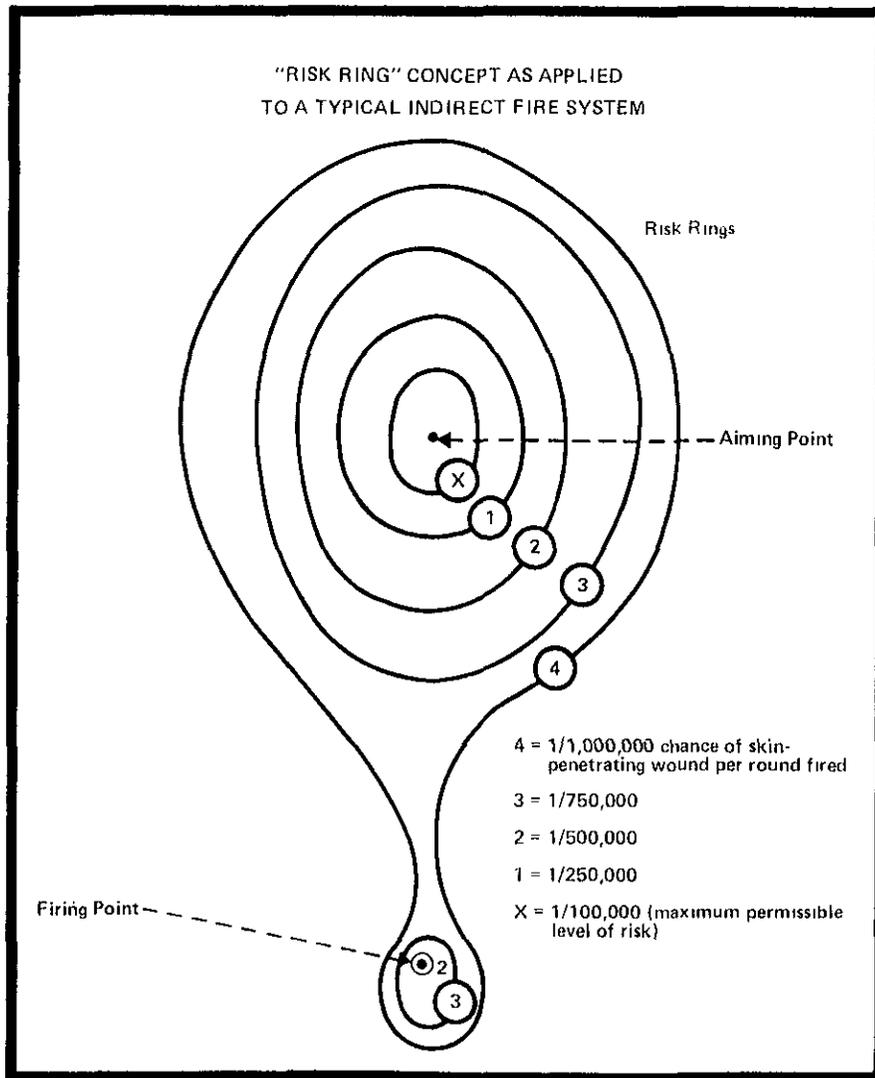


FIGURE 2

of thinking is all too often conservative, unimaginative, and ultimately ineffective training. Thus, the two types of risk need to be clearly defined in regulations and in practice. Then foolish risk-taking must be consistently punished, while prudent risk-taking must never be punished, regardless of the results.

The Army should also initiate a program of research on training realism to identify which risks really contribute to effectiveness. As an example, AR 385-63 currently establishes five meters over the heads of troops as the lower limit for overhead fire. It is reported, however, that one commander signed a waiver so that fire could be placed four feet above the ground. In this case, a standing soldier obviously could be hit — if he jumped up to avoid a rattlesnake, for example.

The key point is this: How high

over a soldier's head does a bullet have to pass for him to get the "snap" of the round and the realistic experience of being under fire? Can he hear or see the difference between a bullet fired four feet above the ground and one at, say, seven feet? If not, why assume the greatly increased risk of firing at four feet when firing at seven is just as realistic? The Army should conduct tests to determine this "realism threshold" and then make its risk decision accordingly.

There are literally hundreds of similar evaluations that should be made — and could be made fairly simply — that would enable a commander to know for sure, instead of having to guess, which risks are foolish and which are prudent.

Somewhere along the line, occasional losses arising from unnecessary risk-taking have caused us to drift into thinking that *all* losses must be

regarded as unacceptable. As a result, we have reached the point where training is one of our safest activities. But if that training does not satisfactorily prepare our soldiers for actual combat, then what good is it?

Many of our safety restrictions can be modified or eliminated with substantial benefit to realistic training but with little or no increase in risk to the soldiers.

The Army can achieve its combat readiness mission with reasonable safety to the public and its own personnel. Unfortunately, this won't just happen; the necessary actions must be taken *now* by the people responsible.

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Death of an Old Friend: The M1911A1 Pistol

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The search for a service pistol for the military forces of the United States began in the late 1890s. The subsequent adoption of the Model 1911 pistol was the result of 13 years of research and testing. It, along with its 1926 modification, the Model 1911A1, has faithfully served millions of U.S. servicemen during the past 74 years.

Its reign has not gone unchallenged, however. In fact, during the past 37 years there were many attempts to replace it or to change its caliber. These attempts, until recently, all failed.

But the justification for a change was never as strong as it became in 1984 — what with NATO standardization requirements, Congressional

debate, and a Joint Service Operational Requirement for a personal defense weapon. Today, as we now know, a new weapon has been adopted — the 9mm Beretta 92SB-F — and our old friend the 1911A1 is on its way out.

As it passes, though, it is only natural (because of the importance of a sidearm to an infantryman) to eulogize the 1911A1 by reflecting on its rich heritage.

From 1898 to 1900, a board of Army officers convened to consider the suitability of a .38 caliber Colt weapon for adoption as a new Army revolver and to consider, at the same time, the possible adoption of an automatic pistol. During the first year

the board concentrated on the overall improvements needed in the Army's revolvers. Then, a year later, the board members stated that Colt's Browning .38 caliber automatic pistol appeared to perform so satisfactorily that it should be considered suitable for adoption.

First, though, endurance tests were needed to determine any weaknesses in construction and what effects continued firing might have on the actual life of the pistol. Accordingly, on 19 February 1900, the board began tests in which the pistol was fired 5,800 times. The weapon was simply constructed, easy to operate, and more accurate than a revolver, and only minor mechanical problems showed up on