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# What Price Sticky Foam?

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Prior to the 1990s, nonlethal crowd-control tools available to the Army and Marine Corps were the old standbys: bayonets and rifle butts, concertina wire, chemical riot agents, water cannons, and rubber bullets. Today, many new nonlethal weapons are in development. These weapons exploit emerging technology in an attempt to broaden the scope of possible responses to riots and other low-intensity tactical situations.

The withdrawal of UN forces from Somalia in Operation United Shield in 1995 saw these new technologies deployed on an operational mission for the first time. For several weeks before the actual operation, broadcast news and print journalism were filled with stories touting the new flexibility that nonlethal technologies would give us. Suddenly, everyone who was anyone was talking about sticky foam or bean bags. The doctrine-writing organizations of both the Army and Marine Corps presently are heavily involved in studying possible uses of the new nonlethal technologies, which include:

- *Antitraction Technology*: Teflon-type environmentally neutral lubricants that make footholds or traction exceedingly difficult
- *Sticky Foam*: Incredibly adhesive foam that immobilizes individuals
- *Anesthetics*: Tranquilizers, dispensed with gas or darts, that could put people to sleep
- *Infrasound*: Low-frequency sound generators that incapacitate individuals by causing nausea, disorientation, and bowel spasms
- *Microwave Transmitters*: Directionally oriented devices that heat skin to an unbearable degree as people approach them

This list represents only a portion of the new nonlethal riot-control technologies. If all were to be adopted, the range of tactical options available to US ground forces facing riots such as those experienced in Somalia supposedly would be much greater. In theory just about all new technologies sound pretty good; however, before we sing Hosannas to the dawn of a new age, it makes sense to point out a few serious tactical problems inherent in the use of this stuff.

## Characteristics of Riot Control in the Third World

To understand the true implications of the widespread use of nonlethal riot-control technologies, we should take a careful look at their tactical environment.

*Riots normally will be massive.* Our recent experience in Somalia saw us facing thousands, if not tens of thousands, of people. Entire communities participated in riots on the West Bank and the Gaza strip. The fighting between Zulus and African National Congress supporters exemplifies the scale of many Third World disturbances. Situations in which riot-control forces are significantly outnumbered by rioters will become the norm.

*Riots will be lethal.* Unlike many of the US riots in the 1960s and even the Los Angeles riots of 1992, many Third World riot situations involve large numbers of people who are out for no other reason than to kill each other. What looks like rioting is in fact a form of warfare--and frequently the lethal intent of the rioters can be redirected toward the forces trying to restore order. If the past five years are any indication, forces deployed to operations other than war probably will face the challenges of both riot control and low-level guerrilla warfare, often simultaneously.

*Riots will be carefully organized.* Far from being spontaneous outbursts of popular rage, many riots are well organized

by faction leaders with designated chains of command and specific instructions to subordinate elements. Command and control is accomplished by runners, local or cellular phones, or hand-held radios. Rioters can be broken down into three basic groups.

First are the armed fighters, who generally are a relatively small cadre with small arms and various hand-held antitank and anti-aircraft weapons, although, like Mohammed Farah Aideed's militia or the Serbs, they also can have heavier weapons. These fighters can show a high degree of sophistication in their tactics and should not be underestimated.

Second, the semiarmed rioters are more numerous. They normally consist of younger men, older boys, and some women, and they are armed with such weapons as clubs, sticks, tools, and knives or spears. They are used to attack or harass other factions and riot-control forces and to create gaps or find weaknesses through which gunmen can travel.

Third, the number of unarmed supporters can equal or exceed that of the semiarmed group. These supporters act as a living screen around their armed and semiarmed fighters. Normally, they are not active in fighting other than by throwing rocks. They will scatter if fired upon, and their presence in the riot scene just causes confusion--which is their intent.

All three of these groups usually operate under some type of direction through an identified and accepted chain of command, be it familial (tribal), religious, or political.

*Riots may involve large numbers of women and children.* Many of our potential opponents understand only too well our squeamishness about injuring women and children--or even detaining and searching them--and they will capitalize on this. Factions in Somalia used large groups of their women and children (active rioters all) to screen the movements of their gunmen and grenade throwers with their bodies. We can expect to see this tactic duplicated in the future in other places.

*Riots will occur where there is no government and no law.* In a failed nation, there is no rule of law. One of the greatest problems in Somalia was what to do with a gunman or rioter once he was in custody. Neither the Unified Task Force (led by I Marine Expeditionary Force) nor UN Operations, Somalia, had detention facilities to keep even a fraction of the rioters or gunmen they captured; there was nothing to do but to let them go.[1]

## **Policy Implications**

What kind of signal does our interest in these nonlethal weapons send to the rest of the world? Is this greater range of nonlethal options a good thing?

We would like to see the development of nonlethal weapons as proof of our civility and restraint: nonlethal weapons show our reverence for life and our commitment to the use of minimum force. They show that we are willing to go the extra mile to keep from having to kill anyone. The news coverage of these weapons prior to United Shield (withdrawal of forces from Somalia) was almost universally positive. The military was bathed in the bright, approving glow of political correctness, because the new nonlethal technologies promised kinder, gentler operations other than war.

But how does the rest of the world interpret the development of these weapons? What message does nonlethal weapons development send to those parts of the world where social order is fragmenting and ethnic, religious, and political strife reigns? That is, what message are we sending to the areas where we are most likely to find ourselves engaged? In his article on the new warrior class, Ralph Peters describes some of our likely opponents:

When we face warriors, we often face men who have acquired a taste for killing, who do not behave rationally according to our definition of rationality, who are capable of atrocities that challenge the descriptive powers of language, and who will sacrifice their own kind in order to survive. We will face opponents for whom treachery is routine, and they will not be impressed by tepid shows of force with restrictive rules of engagement.[2]

Far from strengthening our position in these places, nonlethal weapons further convey to our potential adversaries that we are too squeamish to hurt even our enemies, let alone take casualties ourselves. Arrayed against people who have

nothing to lose, we are saying in effect that we will go to extraordinary lengths to keep from harming them. This conveys neither strength nor resolve, the two traits that gain the most respect in the anarchic world. The new nonlethal technologies are the epitome of "tepid shows of force."

Worse, the advertising and playing up of the nonlethal capability provides our adversaries with a propaganda stick with which to beat us. The warlords of the world all tune in to the Cable News Network (CNN), and they know which buttons to push to divide us (as Aided proved both before and after the October 1993 fire, we are easy to manipulate). All that is needed is a manufactured incident where troops are forced to shoot, causing a few casualties. In the inevitable interview that follows, some warlord or militia "official" will claim that the rioters were only "peaceful protesters" and demand to know why the Americans didn't just use sticky foam. Any incident involving the lethal use of force will be held up to the why-couldn't-they-have-used-sticky-foam model. Instead of giving troops another weapon, we will be giving them another way to be second-guessed--another way to bet their stripes, bars, and oak leaves, another way to go to jail.

In promoting nonlethal technologies--thereby implying that they will increase our ability to conduct operations other than war--we are missing the point. We already possess nonlethal systems: tear gas, pepper spray, water cannons, rubber bullets. Tools are not the problem. The solution to confronting anarchy in the world is not to produce more nonlethal technology; it is to set clear policy goals and objectives and to marshal the resolve to attain them. The key to imposing order is to convey to all factions that certain behavior or actions will not be tolerated and will be met with massive force. Lieutenant General Anthony Zinni going in person to talk turkey with Aided had more to do with the relatively peaceful execution of United Shield than any nonlethal technologies ever did.

We must be prepared to do the hard things. We must be prepared to carry out our threats if someone crosses the line we have drawn. We must be prepared for the fighting that follows. Above all, we must convey that we mean business. The new nonlethal technologies convey exactly the opposite message.

### **Tactical Considerations**

Compounding the many negative policy implications of nonlethal weapons are some tactical drawbacks. The new nonlethal weapons offer no real improvement over the old in terms of neutralizing the threat presented by civil or gang unrest. Their sole advantage is that they are less likely to injure the rioters. But with this capability come some important considerations.

Sticky foam has been touted as a wonder technology that will allow violent persons to be subdued without injury. Unfortunately, it has several serious drawbacks for use in large riot situations: It has a short range, and its dispenser is large and bulky. It also is an indiscriminate weapon that will stick to anything or anyone--friend or foe. This creates the unpleasant prospect of having troops spray sticky foam on a front rank of rioters and then having those rioters propelled into physical contact with them by the rear ranks of unfoamed rioters, gluing troops and rioters together. Sticky foam is more suited to police work against the lone fighting drunk than in a mass situation. The potential for getting your own people foamed is too great.

Antitraction technology (slick-um) has more of an application in riot control, but it is a double-edged sword. It creates a slow-go or no-go area that rioters have trouble traversing, but it also does the same thing to troops. A key rule of thumb would be to not use the stuff anywhere your own people need to be anytime soon. Because most riots take place in populated areas with economic, political, or religious significance, this would limit its use. Could the riot-control forces and the governments they represent afford to have key thoroughfares turned into skating rinks for the time it took to clean up? Also, most of the worst rioting in Somalia took place on dirt streets, where antitraction material would be relatively ineffective.

Anesthetics also have drawbacks in large riot situations. The idea, of course, is to put a person or group of people to sleep quickly. These anesthetics would have to be extremely potent; it would be of little use to anesthetize rampaging rioters with agents that don't take effect for half an hour. Unfortunately, this limits their practical use. In a chemical-agent vapor form, an anesthetic agent would be a dangerous and unpredictable weapon. Unlike pepper spray, which causes people to flee, it would incapacitate its targets. If an anesthetic cloud were blown from a riot scene to a place where people were living normal lives, it could have lethal consequences (vehicle drivers, mothers bathing infants in

streams, etc.). It also would have an anesthetic effect on any troops who were not masked.

Dart anesthetics would have the same friendly-fire considerations and precautions as any direct-fire weapon. They would be most effective prior to physical contact between riot-control forces and rioters. If dart guns were accurate enough, they could be used to target specific instigators. Even when aimed at lower body extremities, they still could result in some eye injuries to rioters. The other problem with mass anesthetization is what to do with rioters once they are anesthetized.

Infrasound devices that induce nausea would be useful if troops and rioters could remain separated; riot-control troops are just as susceptible to infrasound as the rioters. Any misdirection could incapacitate your riot-control forces. The same considerations generally would apply as well to microwave emitters.

As more time is spent in country and a clearer picture of the threat emerges, more specialized riot-control equipment could be brought in. However, a commander must always protect his own soldiers and Marines. There could be nothing more damning than having someone shot dead with a sticky foam projector in his hand or having a water-cannon truck hit by a rocket-propelled grenade. We must not put our soldiers in the position of "bringing a club to a gun fight" in order to look good on CNN.

The popularity of the new nonlethal weapons is even more astounding considering the shrinking defense budgets. These weapons are not cheap; their fielding and training requirements will take a large chunk out of already overextended and underfunded operations and training accounts.

In the anarchic milieu of failed states, there is no substitute for clear goals and objectives and the political and military will to carry them out. The last thing the military needs at this point is a family of weapons that has only limited tactical use in operations other than war and offers no clear advantage over other nonlethal methods.

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## NOTES

1. See, for example, Michael H. Hoffman's "War, Peace, and Interventional Armed Conflict: Solving the Peace Enforcer's Paradox," *Parameters*, 25 (Winter 1995-96), 41-52.

2. Ralph Peters, "The New Warrior Class," *Parameters*, 24 (Summer 1994), 16-26.

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Reviewed 21 August 1996. Please send comments or corrections to [carl\\_Parameters@conus.army.mil](mailto:carl_Parameters@conus.army.mil).