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“Nonlethal” Chemical Weapons: A Faustian Bargain

Incapacitants developed for use by law enforcement are more likely to be used by dictators, terrorists, or criminals.

On October 26, 2002, approximately 50 Chechen separatist guerrillas took over a Moscow theater, holding about 750 people hostage. The hostage-takers were well armed with automatic weapons and grenades, and the females were wired with high explosives. They demanded the withdrawal of Russian troops from Chechnya, and threatened to kill the hostages and themselves if their demand was not met. The Russian government refused to negotiate. On the 28th, Russian special forces troops stormed the theater, first releasing a potent narcotic (a derivative of the opiate anesthetic fentanyl) into the ventilation system. When the troops burst into the main hall, they found the hostages and hostage-takers in a coma. The unconscious Chechens were all shot dead at point blank range, and the hostages were rushed to hospitals. In the end, approximately 125 hostages died of overdose; the rest—more than 600—survived. A number of the survivors

are likely to have permanent disability. Opiate overdose causes respiratory depression that can starve the brain of oxygen, causing permanent brain damage when prolonged. It took hours to evacuate and treat the hostages. Aspiration pneumonia, a frequent complication of opiate overdose, may also cause permanent damage.

This dramatic event brought into focus a debate that has been simmering in arms control circles for several years, barely noticed by the general public: whether “nonlethal” chemical weapons are legal, and, if they are, whether it is a good idea to develop them. Proponents have argued for some time that situations exactly like the one in Moscow justify the use of such weapons. A more likely result, however, is that these weapons will turn out to be a Faustian bargain—with temporary benefits and high costs.

Was the chemical attack during the Moscow hostage rescue legal under international law? The 1993 Chemical Weapons Convention (CWC) bans the development, production, stockpiling, and use of chemical weapons. It defines chemical weapons as all toxic chemicals and all devices specifically designed to deliver them. Toxic chemicals are defined as chemicals that “cause death, temporary incapacitation, or permanent harm to humans or animals.” Thus,

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chemical incapacitants are clearly prohibited. (The term chemical incapacitant is preferable to nonlethal chemical weapon because none of the possible agents is really nonlethal, as the death of so many Moscow hostages dramatically demonstrated.)

Under the CWC, however, there are four specific purposes for which toxic chemicals can be used without being considered chemical weapons: peaceful medical, agricultural, research, or pharmaceutical purposes; protective purposes (such as testing defenses against chemical weapons); military purposes not dependent on toxicity (many compounds in high explosives and other munitions are toxic, but their toxicity is irrelevant to their function); and “law enforcement including domestic riot control.” The first three of these are not relevant here, but the fourth clearly is. In Moscow, Russia was enforcing its own domestic law on its own territory, and so the use of a chemical incapacitant did not violate the CWC. Whether the development, production, and stockpiling of the agent was originally intended for this purpose, and therefore legal, is unknown.

Thus there are two rather different questions: Given that it is legal to develop and use these weapons for law enforcement purposes, is it wise? And how should prohibited military development be deterred?

Any program developing chemical incapacitants has to start with the realization that they are dangerous and will cause a significant death toll when used at levels that will incapacitate most of those exposed. How high a toll is hard to estimate with certainty, but even with optimistic assumptions, lethality of 10–20 percent has to be expected (see www.fas.org/bwc/papers/sirens_song.pdf), which is what happened in Moscow. Therefore they should be used only as a last resort.

But could it work twice? The Moscow hostage rescue could be considered a success, since more than 80 percent of the hostages were recovered alive. But the next time terrorists engage in hostage-taking, they will certainly be prepared for the use of incapacitants, with gas masks and possibly antidotes. (There is a readily available and effective antagonist to opiates.) Such minimal preparations will completely defeat the advantage of chemical incapacitants and render them nearly useless for the specific scenario that proponents cite as requiring them. Since we can assume that terrorists or criminals would be prepared to

defend themselves against chemical incapacitants, what legitimate uses would there be for such desperate measures? I believe that they have little utility for law enforcement in democratic societies.

But criminals, terrorists, and dictators will find them to be quite useful. The ideal targets for chemical incapacitants are people who cannot protect themselves, perhaps do not even expect an attack, and whose death is acceptable. Used by terrorists in conjunction with other weapons, such as incendiary devices or high explosives, chemical incapacitants could prevent flight and thus increase death tolls. Or they could provide a means to neutralize security forces silently, preserving surprise in the first few minutes of an attack on targets such as government buildings. Criminals might also find uses for such weapons; there is already a serious problem with chemical incapacitants being used to facilitate rape. Security forces in despotic regimes could use these agents to immobilize protesters rather than disperse them, as is done with existing riot control agents, thus allowing protesters to be taken into state custody. If chemical incapacitants become weapons in the arsenal of law enforcement agencies, they will enter the legal global trade in police weapons and be as available to despotic regimes as they are to democracies. They will also quickly enter the black market in arms, where they will be readily available to criminals and terrorists.

Like all chemical weapons, chemical incapacitants are primarily weapons for attacking the defenseless. Chemical weapons were used extensively in World War I, but neither side gained any significant advantage from them, because both sides were able to develop them and both deployed defenses. But after the war, two countries used them effectively against tribal peoples unable to defend themselves or retaliate in kind: the Spanish in Morocco and the Italians in Ethiopia. Chemical incapacitants will be the same: relatively ineffectual weapons for law enforcement because of their significant lethality and the ease of defense. But in the hands of terrorists, criminals, torturers, or despots, who care little about the lethality and whose victims are defenseless, they could pose a serious threat.

Military use of incapacitants

Of course, militaries would have additional uses for such weapons if they were willing to ignore the legal

obstacles. Chemical incapacitants could have utility in urban warfare and in military operations other than war (counterterrorism, peacekeeping, and so forth). They would be quite attractive to special forces, which could use them to silently incapacitate opponents behind enemy lines. Thus stockpiles of chemical incapacitants for law enforcement would pose a nearly irresistible temptation to those who wanted to divert them to military purposes.

Would this be a bad thing? Nonlethal weapons are often perceived as a humane alternative to lethal weapons. Yet chemical incapacitants cause levels of lethality comparable to those of military firearms (about 35 percent), artillery (about 20 percent), grenades (about 10 percent), and civilian handguns (about 10 percent). Chemical weapons used in World War I were similar; they killed about 7 percent of casualties. Chemical incapacitants are clearly in the same category with respect to their lethality: There is no basis whatsoever for calling them nonlethal or less lethal or any of the other euphemisms that proponents use to imply a categorical difference.

Furthermore, the military use of nonlethal weapons is more often an adjunct to, not a replacement for, lethal force. The history of the U.S. military use of tear gas is a case in point. During the Vietnam War, the United States used tear gas extensively. The public rationale was identical to that now being cited for chemical incapacitants: humanitarian goals of reducing civilian deaths in situations in which combatants and noncombatants were mixed. Although tear gas was occasionally used for that purpose, the major use by far was to drive enemy troops from cover and make them more vulnerable to small arms fire, artillery, and aerial bombing. Thousands of tons of tear gas were used between 1966 and 1969, disseminated in hand grenades, rifle-propelled grenades, artillery shells, rockets, bombs, and helicopter-mounted bulk dispensers. Although considered highly successful by the military, the practice was widely condemned, and in 1975 President Ford issued Executive Order (EO) 11850, which restricted

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the use of riot control agents to “defensive military modes to save lives,” such as riot control in territories under U.S. control, cases where civilians are used as shields, the rescue of downed aircrews or escaping prisoners-of-war, and use behind the lines to protect convoys.

The United States, alone among the 150 parties to the CWC, argues that the convention allows riot control agents. The argument rests in part on the CWC’s different definitions of toxic chemicals (causing “death, temporary incapacitation, or permanent harm to humans or animals”) versus riot control agents (chemicals that “can

produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure”). Thus, the United States does not consider “sensory irritation or disabling physical effects” to be a form of “temporary incapacitation.” It also does not consider these chemicals to be toxic, despite the fact that they have caused many deaths and permanent disability.

The United States thus asserts that military use of riot control agents is limited by the CWC only by a single sentence: Riot control agents may not be used “as a method of warfare.” This prohibition would prevent future use of riot control agents in the way they were used in Vietnam, but the United States believes that it permits their use under the terms of EO 11850. Indeed, Secretary of Defense Donald Rumsfeld testified to Congress that he intended to request presidential approval to use riot control agents in case of war with Iraq. This would be most unfortunate, because the rest of the world would consider this to be chemical warfare. It would vitiate the U.S. argument that the war is a moral one, with part of its purpose being to enforce the CWC.

Despite its uniquely liberal interpretation of the CWC restrictions on the use of riot control agents, it is hard to imagine that even the United States could consider chemical incapacitants as anything other than toxic chemicals, and thus fully covered by the CWC. The intent of chemical incapacitants is, after

all, to temporarily incapacitate victims, and their high lethality (compared with riot control agents) makes it clear that they are toxic chemicals. Thus the development of such agents as weapons would, in order to be legal, have to be for law enforcement purposes only; no military development, production, possession, or use would be permitted.

What might such a legal program look like? It would be administered, performed, and funded by nonmilitary agencies, such as the Department of Justice. The rationale under which approval is secured would mention only law enforcement purposes. The work would be unclassified. The safety requirement for agents would be compatible with domestic use. The munitions developed to deliver the agent would be those in common use by police.

Unfortunately, U.S. research into chemical incapacitants fails to satisfy these criteria (see www.sunshine-project.org). Most of the projects have been originated and funded by the military. The rationales refer almost exclusively to military scenarios, including urban warfare, military operations other than war, and even major theater war. Much of the work is classified. And a 81-mm mortar shell with a range of several miles is being developed to deliver “non-lethal” payloads, including chemicals. Only in the area of safety standards does the U.S. program appear to be consistent with law enforcement; the goal is an agent that causes less than 0.5 percent fatalities (comparable to tear gas).

Although research per se is not prohibited by the CWC, and it appears (at least on the basis of unclassified material) that the United States has not yet passed the threshold of prohibited chemical weapons development, its research is nevertheless provocative and destabilizing. The overt interest in prohibited agents and the repeated assertion that they could have military utility make it appear that it is only the lack so far of a suitable agent that has prevented the United States from entering prohibited territory. This perception, whether accurate or not, seriously erodes the U.S. claim to the moral high ground vis-à-vis countries like Iraq.

Of course, much of the U.S. research on chemical incapacitants may be classified, and this further reduces the confidence others can have in U.S. compliance with the CWC. Although the lead agency in this effort (the Marine Corps’ Joint Non-Lethal

Weapons Directorate) has denied any current efforts to develop chemical incapacitants, retired Rear Admiral Stephen Baker has claimed that special forces are now equipped with “knockout gases” that he expects will be used in Iraq if needed. Clarification of this serious charge is urgently needed.

It would do a great deal of good if President Bush or Secretary Rumsfeld would unambiguously disavow any intent to develop chemical incapacitants as military weapons, deny any current possession or deployment (or, if necessary, order their immediate destruction), and explicitly acknowledge that such incapacitants are prohibited by the CWC. If this were coupled to a commitment to forgo the use of riot control agents against Iraq, the United States could recapture some of the legitimacy lost because of ambiguity concerning its own compliance with the CWC.

The potential for misuse

The pursuit of chemical incapacitants for law enforcement purposes will turn out to be a Faustian bargain at best; their pursuit for military purposes would violate the CWC. By far the best policy option is to eschew this category of weapon entirely and to exert leadership in the international arena to ensure that others do the same.

Although there is some possibility that chemical incapacitants might be useful law enforcement tools in certain special circumstances, the ease of protection against them means that such circumstances will be rare. Their utility will thus be very limited and not worth the price that inevitably would have to be paid.

The price is high in many ways. Incapacitants have a much greater potential to be used by dictators, terrorists, or criminals than by law enforcement. And the temptation to divert such weapons to military uses will be immense. Certainly the world has taken note of the persistent U.S. military interest and the apparent Russian stockpiles. Many nations probably disbelieve U.S. claims that it is restricting itself to permitted research activities, and may thus be encouraged to begin their own clandestine development and stockpiling. In this way a new chemical arms race may begin.

Even if development and stockpiling of incapacitants were scrupulously restricted to law enforcement purposes, the CWC would nonetheless be fundamentally undermined. The overarching purpose

of the CWC is to prevent nations from entering military conflict with chemical weapons that they are prohibited from using. The ban on use is secondary, since that ban has been in place since the 1920s. If we permit stockpiles of chemical incapacitants for law enforcement that could be instantly redirected to military use, we have seriously subverted the CWC.

In the long run, the pursuit of chemical incapacitants is likely to be the first step in the exploitation of pharmacology and biotechnology for hostile purposes. It would be naïve to think that this exploitation could be confined to domestic law enforcement. Even if the more trustworthy nations observe their treaty commitments, many others will be seduced by the military utility of pharmacological weapons. And during the next several decades, scientific advances will almost certainly see a tremendous expansion of our capabilities to manipulate human consciousness, emotions, motor control, reproductive capacity, behavior, and so forth. Such capacities have potential for great medical benefits, and this potential (along with the profits that could be made in applying the benefits) ensures that progress will be rapid. But they also have entirely novel and terrifying potential for abuse. Our challenge is to bequeath to our children a future in which the benefits of biotechnology and pharmacology are realized, but their abuses contained. This is a formidable challenge; no militarily useful technology has ever been successfully eschewed.

One important measure would be a new international treaty that prohibits the hostile manipulation of human physiology, particularly with respect to the central nervous system and reproductive physiology. The European Parliament has already called for “a global ban on all developments and deployments of weapons which might enable any form of manipulation of human beings” (European Parliament resolution A4-0005/1999, www3.europarl.eu.int/), and

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the International Committee of the Red Cross has urged states “to adopt at a high political level an international Declaration on Biotechnology, Weapons and Humanity containing a renewed commitment to existing norms and specific commitments to future preventative action” (www.icrc.org). Given the rapid rate of scientific progress, it is urgent to establish a clear understanding that any manipulation of human biochemistry or genetics for hostile purposes is completely unacceptable. A new international convention would be an important step in establishing such a norm.

Negotiating a new international treaty will take years. More immediately, Congress should initiate active oversight of the non-lethal weapons programs of the Departments of Defense, Energy, and Justice, of the Central Intelligence Agency, and of any other agencies involved. Such oversight should pay specific attention to the long-term policy issues. Since much of this research is probably classified, and thus unknowable to the media or the public, only congressional oversight can ensure that it is conducted in accordance with the best long-term interests of the United States and the world. The long-term potential of biotechnology and pharmacology to be used to do harm is too serious a policy issue to be left to the military, where short-term tactical considerations may lead to unwise decisions.

The United States is certain to be the critical player; it is the world’s preeminent biotechnology and pharmaceutical power, and the world’s foremost military power. For better or worse, the United States will lead the way into the exploitation of biotechnology as weaponry or into a robust ethical and political system preventing such exploitation. The choice is ours; we should make it actively, and not slide unwittingly into a future we have not chosen and may bitterly regret.