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0521857589 - Non-Lethal Weapons: The Law and Policy of Revolutionary Technologies for the Military and Law Enforcement

David A. Koplow

Excerpt

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## ONE

## Introduction

The governmental mechanisms that exercise a state's physical coercive power – various cadres of military and law enforcement agencies – often face a difficult dilemma. In confrontations with recalcitrant opposing forces of varying sorts, the authorities must recognize that if they exercise *too much* power, they incur an unacceptable danger of “collateral damage” – unintended casualties to civilians and unnecessary destruction of valuable property. On the other hand, if they exercise *too little* power, they may risk the safety of their own personnel and compromise the accomplishment of an important and legitimate mission.

In recent years, this dilemma has arisen with painful frequency inside the United States and elsewhere, and officials increasingly express frustration at having only an impoverished array of tools at their disposal, especially regarding confrontations in which the specific target of the police or military forces is intermingled with civilians or innocent bystanders. Government actors may have only “bullhorns or bullets” to choose from – if emphatic verbal instructions and warnings do not suffice, the only recourse is to the application of deadly force, which often cannot be applied with anything like the desired surgical precision.

This book examines that dilemma in the context of the imminent development of a novel toolkit of so-called non-lethal weapons

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(NLWs), which promise radically to alter the existing Hobson's choice. These armaments – a wide range of technologies, new and old, incorporating different types of physical mechanisms, capable of both antipersonnel and antimateriel operations – seek to provide a viable intermediate capability, for the first time affording governmental actors additional options in these volatile situations. These emerging resources include a breathtaking array of devices such as enhancements of the traditional “rubber bullets,” foam sprays that make a surface either impossibly slippery or impassively sticky, millimeter-wave “heat rays” that peacefully repel people without inflicting lasting harm, projectile netting or other entangling devices to capture individuals or vehicles, chemicals that temporarily irritate, repel, or becalm a person, biological agents that embrittle metal or contaminate petroleum products, and much more.

The methodology of the book is to examine five representative recent confrontations – the 1993 shootout and siege at Waco, Texas, involving federal ATF and FBI units against the Branch Davidians led by millennialist David Koresh; the 1994 genocide in Rwanda, in which the United Nations, the United States, France, and other outside forces were so shamefully passive; the 1996–7 terrorist takeover of the Japanese ambassador's residence in Lima, Peru; the 2002 seizure of the Dubrovka Theater in Moscow by Chechen separatists; and the 2003 Gulf War II fighting by the British Army against indigenous resistance in Basra, Iraq. Although in each of these episodes the government forces “prevailed,” in some crude sense, each was at least partially unsatisfactory – they resulted in more carnage and more destruction than anyone would have wanted. So the goal is to determine whether the availability of a richer configuration of NLWs might have made a difference.

These five case studies provide an array of contrasts: they occurred on five different continents, they involved five different countries

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and five different types of resistance units as protagonists, and they engaged notably different genres of armaments and tactics. In addition, the selected incidents are usefully diverse in yet another regard. Some (Waco and Lima) were clearly law enforcement operations – in the Texas example, initially occasioned by the effort to serve ordinary arrest and search warrants. In contrast, the fifth case (Basra) was plainly a conventional military operation, occurring in the midst of a broad-gauged international armed conflict. The Moscow incident presents a sort of middle ground, containing aspects of both law enforcement and military counterterrorism operations, thereby illuminating the rainbow of legal and policy considerations at play. Rwanda is similarly difficult to categorize, as it incorporates elements of coup d'état, civil war, and genocide.

The book does not argue that non-lethal weapons *should* have been applied in all these confrontations, or that they necessarily *would* have made a profound difference in resolving the clashes at appreciably less cost. It may be that these instances were simply intractable, that the opposing forces were so resistant, fanatic, or entrenched that even improved technology and tactics would have proven unavailing. Still, the hypothetical inquiry remains: what might have happened, in these five tragic cases, if the respective governments had been able to try something else – something non-lethal?

The book proceeds in the following steps. First, the emerging world of NLWs is surveyed, beginning with the observation that the very name “non-lethal” is at least partially misleading: any application of force by police or military units inherently carries the potential for death. Although this new family of technologies attempts at least to reduce greatly the probability of mortality and widespread destruction of property, there can be no absolute guaranties.

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Chapter 2 also describes a variety of NLW technologies, starting with the more familiar devices (tear gas, water cannon, plastic bullets, etc.) long used by governments around the world. It then introduces some of the more tantalizing possibilities that loom on, or just over, the horizon: gizmos that disable or deter, ensnare or blockade, corrode or contaminate, all without inflicting catastrophic harm. The chapter also describes some of the animating spirit behind the investigation of, and the burgeoning investment in, these esoteric capabilities: the classic scenarios in which military and police forces imagine they would be better able to control incendiary situations, perform their assigned missions, and protect themselves and any bystanders with greatly reduced fatalities and destruction.

Chapter 3 next assesses the law applicable to NLWs, starting with the international legal constraints upon battlefield violence. Treaties that regulate chemical, biological, and other categories of specialized conventional armaments are highlighted, along with the more general evolving law of armed conflict, which was crafted largely with other kinds of implements of war in mind, but which must now adapt to embrace NLWs as well. Domestic U.S. law, too, governs non-lethals, constraining both the research on selected armaments concepts and the application of force by federal and local law enforcement in contentious situations. In particular, the prohibition against, and the definition of, “excessive” force by police demands attention in the context of NLW?

Next, the five selected case studies are presented: Waco (Chapter 4), Rwanda (Chapter 5), Lima (Chapter 6), Moscow (Chapter 7), and Basra (Chapter 8). Recent events have provided an altogether-too-rich assortment of unhappy incidents of collective violence to choose from, but these five representatives may usefully characterize the field. Each of these five confrontations has already been described in the relevant literature, so the focus here is not to retell each

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story in lurid detail, but to concentrate on the types of weapons used by police, military, and their opponents. More tellingly, the inquiry asks about the types of weapons that were *not* used in each incident: what might have happened, how might things have turned out differently, if an additional category of weapons, with a variety of specialized non-lethal effects and attributes, had been available? The point here is not simply to critique the beleaguered combatants or to second-guess their choices of negotiating strategies, political positions, or assault tactics. Instead, the book poses the hypothetical inquiry about whether NLWs could have played a useful contributing role in saving lives, protecting property, and accomplishing missions.

Chapter 9 then sounds a necessary cautionary note, recording some of the many critiques of the nascent movement to embrace NLWs, and exploring a miscellany of arguments why we might still hesitate to go wholeheartedly down this procurement pathway. Even if one believes that NLWs could have made a positive contribution to a more-peaceful resolution of the five selected case studies, there are counterbalancing considerations to consider. Prominent among these concerns are the danger of proliferation of the weaponry (to opposing military forces, criminals, or human rights abusers) and the release of existing inhibitions against too-adventurous applications of governmental force.

Finally, Chapter 10 offers some recommendations and conclusions, boiling down to a cautious “green light” for NLW development programs. There are good reasons to be hopeful that emerging non-lethal technologies can liberate police and military forces from their existing dilemma: if you have only the ability to overreact or to underreact, you can’t do a very good job of promoting law, order, and security. If sticky foam, acoustic rays, tasers, vehicle nets, and other esoteric devices could enable military and law enforcement

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authorities to behave with a more deft touch, complementing existing firepower with an enriched range of possibilities, that would be a most welcome boon. But international and domestic law restraints, and the prudent projections about how other actors might respond to our articulation of new NLW capabilities, mandate a reflective, step-by-step approach. NLWs might be helpful, indeed, in some categories of important, challenging, and all-too-frequent confrontations, but they are no panacea.

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## TWO

# The World of Non-Lethal Weapons

### A. DEFINING “NON-LETHAL”

What do we mean by “non-lethal” weapons? A variety of definitions has been proffered, the most visible of which comes from the U.S. Department of Defense, where the U.S. Marine Corps houses the Joint Non-Lethal Weapons Directorate (JNLWD), the leading military arm in interservice research, development, and procurement in the field. As specified in the definition section of DoD Directive 3000.3,

3.1. Non-Lethal Weapons. Weapons that are explicitly designed and primarily employed so as to incapacitate personnel or materiel, while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment.

3.1.1. Unlike conventional lethal weapons that destroy their targets principally through blast, penetration and fragmentation, non-lethal weapons employ means other than gross physical destruction to prevent the target from functioning.

3.1.2. Non-lethal weapons are intended to have one, or both, of the following characteristics:

3.1.2.1. They have relatively reversible effects on personnel or materiel.

3.1.2.2. They affect objects differently within their area of influence.<sup>1</sup>

<sup>1</sup> Department of Defense Directive No. 3000.3, Policy for Non-Lethal Weapons, July 9, 1996.

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In partial contrast, the National Institute of Justice, which orchestrates the U.S. Department of Justice's exploratory programs in the law enforcement side of the NLW field, articulates the objective as the "identification and development of new or improved weapons and other technology that will minimize the risk of death and injury to officers, suspects, prisoners and the public, and contribute to the reduction of civil and criminal liability suits against police, sheriff, and corrections departments."<sup>2</sup>

Other experts have promulgated rival definitions, with varying degrees of formality and inclusiveness.<sup>3</sup> NATO, for example, formally refers to the area as encompassing "weapons which are explicitly designed and developed to incapacitate or repel personnel, with a low probability of fatality or permanent injury, or to disable equipment with minimal undesired damage or impact on the environment."<sup>4</sup>

For purposes of this book, it is useful to supplement these working definitions, by differentiating more precisely between antipersonnel and antimateriel NLWs, along the following lines: antipersonnel NLWs are weapons designed and used to have relatively temporary effects, which disappear either simply via the passage of time or via the administration of relatively minor treatment. Antimateriel NLWs are weapons that are designed and used either (a) to have relatively temporary effects, which disappear either simply via the passage of time or via the administration of relatively minor

<sup>2</sup> National Institute of Justice, quoted in Lois Pilant, *Crime and War: An Analysis of Non-Lethal Technologies and Weapons Development*, 65 *The Police Chief* No. 6, June 1998, p. 55.

<sup>3</sup> The Human Effects Advisory Panel established by the JNLWD has proposed a quantitative definition, under which a weapon would be classified as non-lethal if it incapacitates 98 percent of the people it is used against, while killing no more than 1/2 percent, permanently injuring no more than 1/2 percent, and having no effect on 1 percent. Cited in David P. Fidler, *The International Legal Implications of "Non-Lethal" Weapons*, 21 *Michigan Journal of International Law* 51, fall 1999, p. 62 (hereinafter Fidler Michigan).

<sup>4</sup> NATO Policy on Non-Lethal Weapons, Press Statement, October 13, 1999.



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treatment, or (b) to damage or destroy a target via nonexplosive means.<sup>5</sup>

It is important to note that none of these definitions includes any complete assurance against lethal effects of the weaponry. The effort is to *reduce* the probability of mortality, but not necessarily to negate it altogether; in any application of organized violence, especially one undertaken in such a wide variety of environments and contexts, against people of diverse health histories, strengths, and weaknesses, there is some inherent, irreducible danger of fatalities. A projectile, chemical, or other mechanism that would merely disable or temporarily incapacitate one person (e.g., a young, healthy soldier in the open air) might well inflict mortal injury on someone else (e.g., a child in a confined space or an elderly person already compromised by illness).<sup>6</sup>

Many observers, therefore, regarding the very term “non-lethal weapon” as an oxymoron, have substituted alternative vocabularies. They would refer to the topic as embracing weapons that are “sublethal,” “less lethal,” “less than lethal,” “disabling” or that

<sup>5</sup> As elaborated *infra*, these definitions bring within the embrace of NLWs weapons that are either (a) temporary (in allowing the targeted person or object to return to ordinary functioning relatively quickly) or (b) stealthy (in permanently destroying an object via mechanisms that are relatively unusual, precise, and quiet). For present purposes, we dispense with potential NLWs (e.g., specialized chemical or biological weapons) that might be designed specifically to target plants or animals.

This book follows the literature's convention in excluding from the current discussion consideration of a variety of other weapons, tactics, and programs that typically would be “non-lethal,” at least in their initial effects, but that raise so many *sui generis* issues of their own that separate analysis is warranted. Among these important topics – related to, but different from, the NLWs described here – are computer warfare, psychological operations, robotics, nanotechnology, precision guidance, and advanced sensor systems.

<sup>6</sup> Realistically, the opposite pole of the spectrum of lethality is also merely a matter of probability: even the most “lethal” of traditional weapons are fatal in only a fraction of their applications. Battlefield statistics indicate that Kalashnikov rifles, for example, kill only 20 percent of the soldiers they injure, and hand grenade injuries are fatal only 10 percent of the time. Robin M. Coupland and David Meddings, *Mortality Associated with Use of Weapons in Armed Conflicts, Wartime Atrocities, and Civilian Mass Shootings: Literature Review*, 319 *British Medical Journal* 407, August 14, 1999.

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accomplish a “soft kill” or a “mission kill.” For similar reasons, the International Committee of the Red Cross and some other authors, when referring to this entire category of ordnance, routinely place the term “non-lethal weapons” inside quotation marks, or use a phrase like “so-called non-lethal weapons.”<sup>7</sup>

While acknowledging the somewhat misleading connotation of the term, this book will follow the mainstream of the literature and employ the term “non-lethal” (ordinarily without quotation marks). For better or worse, this is the language that has established itself as the leading expression, and, lacking an obviously better alternative, it remains a plausible form of reference.

## B. TRADITIONAL FORMS OF NON-LETHAL WEAPONS

The concept of a NLW is hardly a recent creation. Indeed, a variety of NLWs has been a staple in the inventories of armies – and especially of police – around the world for decades. Among the most familiar low-technology devices for crowd control have been truncheons, water cannon, K-9 corps, and cattle prods. One step higher on the ladder of escalation have been rubber or plastic bullets – or, more generally, firearms that utilize projectiles (including aerodynamic beanbags, wooden batons, and composite plugs) that inflict a blunt trauma upon the target, without intending to penetrate the skin or

<sup>7</sup> See, e.g., Robin M. Coupland, “Calmatives” and “Incapacitants”: Questions for International Humanitarian Law Brought by New Means and Methods of Warfare with New Effects?, 19th Workshop of the Pugwash Study Group on the Implementation of the Chemical and Biological Weapons Conventions, April 26–7, 2003 (hereinafter Coupland Calmatives); Fidler Michigan, *supra* note 3, at 60 (asserting that “the term ‘non-lethal’ persists not because more accurate terms cannot be found but because it is easier for the military to market ‘non-lethal’ weapons in military and civilian contexts”). The Department of Justice traditionally has referred to this topic as the investigation of “less than lethal” systems, whereas the Department of Defense has adopted “non-lethal.”