

Rappert, B. 2002. 'The Future of Force' *Science and Public Affairs* October 6-7.

When the crew of the Star Trek Enterprise face a thorny situation where life must persevere but opponents subdued, the order is given to 'set phasers on stun'. After a moment of adjustment and aiming, phasers deliver a measured force that always has the intended effect of knocking out those targeted for a short time.

Today there is considerable interest across policing, peacekeeping, or warfighting settings in developing 'non-lethal' weapons that cause only temporary injury.

Past and future non-lethals

There is little new, however, about the search for such devices. Ancient Chinese armies employed ground pepper to momentarily blind opponents. For many years Western police and military forces have posed a variety of devices generally described as 'non-lethal': kinetic projectile munitions such as plastic bullets; chemical irritants such as tear gas; and devices that employ electricity such as 'stun guns'. In recent years, this form of weaponry has figured in protests in Seattle, Genoa and elsewhere, though the possibilities for their deployment extend well beyond such events to include routine policing, incarceration and warfare.

To believe some, the old fashioned technologies are soon to give way to a far broader spectrum of options: acoustic weapons which shatter windows and cause internal damage; electromagnetic pulse beams designed to knock individuals down and cause seizures; and chemical agents which act as calmatives. In Europe and the US, considerable funds are being dedicated to the search for novel weaponry. It is hoped that such equipment will reduce much of the controversy that often comes with the use of force.

Technological solutions

For those familiar with disputes about science and technology, it will be of little surprise that past attempts to resolve debates about force through the introduction of technology have often floundered. Experience suggests the perfect phaser remains a promise reserved for future worlds. In the confusion and complexity of conflicts, ensuring non-lethals are non-lethal requires acting in highly prescribed ways in relation to populations where individuals have very different susceptibilities to injury. Deaths of adults and children from plastic bullets (in places such as Northern Ireland, the Occupied Territories, and South Africa) have done little to foster support for this class of technology.

To varying degrees, the possibility for injury is acknowledged by proponents. While non-lethals may result in significant harm, a more qualified argument in support of them is that they entail comparatively more acceptable options than other means. Better a plastic bullet that might kill than a conventional bullet that almost certainly will. If debates are framed in terms of whether it is better to be shot with a conventional or less-lethal munition, then the way ahead is straightforward.

Lowering the threshold

A past danger with non-lethals though has been that they are employed at a lower threshold than originally stated or they complement (not substitute for) lethal force. During the Vietnam War, CS gas irritant was initially justified as a benign means of controlling riots and

separating civilians from combatants. As commanders became familiar with the technology, its range of uses expanded considerably. Between 1964 and 1970, nearly 16 million pounds of CS was procured for a variety of operations in Vietnam, such as making areas uninhabitable or forcing Vietnamese out of underground hide outs (then followed by bombing runs). In a very different instance, hand-held CS sprays were deployed by many British police forces starting in 1996. While initially justified as a last step in restraining extremely violent individuals, complaints have been made that it has become something of a first step form of intervention.

Bizarre questions

The new weaponry envisioned today under a non-lethal banner requires addressing bizarre and disturbing questions about how death and injury ought to be weighed. When members of the United Nations Convention on Certain Conventional Weapons gathered in 1995 to discuss banning laser weapons designed to blind, states such as the US initially opposed any restrictions by arguing it was better to be blind than dead. Those ultimately successful in pushing for controls countered that the question which needed to be addressed was not whether it was better to be dead or blind, but whether the almost certainty of blinding from such weapons in war was more inhumane than the possibility of injury or death through conventional firearms and explosives.

Adding to these complications, sorting hope from hype has often been difficult. When Mace chemical incapacitant sprays were launched over 25 years ago for police protection they were billed as much more humane than the revolver or baton. Initial claims about their effectiveness and efficacy were later judged as 'wildly exaggerated' by the US Federal Bureau of Investigation. Recently, much promise has been attached to infrasound acoustic weapons as possible means of incapacitating persons without lasting injury. Yet, enthusiastic safety and effectiveness claims have been deemed 'plainly untrue' by some scientists.

Along side these debates are questions about the desirability and purpose of non-lethal weapons. Depending on how effects are assessed, the principle of minimum political reaction or minimum force is said to be driving developments. Much of the concern voiced about non-lethals is whether they are indeed safer options or whether they only appear so. Poignantly, one commentator noted 'We all remember how badly Rodney King was beaten by L.A. police, but no one remembers how many times King was shocked [with electrical device] and how much voltage he received.'

GM non-lethals

In the strange twists and turns that often typify discussions about non-lethals, fact may soon be inspiring fiction. US defence establishments have begun research into genetically engineering microbial and biocatalysts that supposedly degrade materials such as runways or lubricants as well as psychopharmacological drugs that might serve as the next generation of human incapacitants. With regard to the latter, it is hoped advances in genetics will enable the targeting of receptor sites in the brain that have been identified with causing specific behavior such as submissiveness. Such programmes threaten to radically redefine notions of proper conduct vis-à-vis biological weapons controls (such as the 1972 Biological and Toxin Weapons Convention) by introducing a distinction between 'good' and 'bad' bioweapons.

Given the often diametrically opposed views about the legitimacy of force, much is at stake in discussions about the acceptability of non-lethal weapons. Just what force should be used, to what ends, and with what effects are matters of dispute. When weapons with uncertain effects, whose proper use requires following highly proscriptive rules are introduced into volatile settings, it is often difficult and contentious to determine who has responsibility for

what. Past controversies about these weapons have turned on appeals to practical necessities, power, idealism and morality. Perhaps one of the most basic points to acknowledge about non-lethal weapons is that while they may be instruments for controlling action, debates about their merits are also characterized by attempts to control the key issues at stake.

Brian Rappert is a Research Fellow at the School of Sociology and Social Policy, University of Nottingham and author of Technology, Politics and The Management of Conflict: Non-Lethal Weapons as Legitimizing Forces? (forthcoming, Frank Cass).