

Ethics and Weapons of Mass Destruction¹

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The use of weapons of mass destruction (WMD) in warfare is not new, and may be as old as warfare itself. Historical evidence suggests that the use of biological weapons may be at least 3300 years old. Ancient texts have recently provided evidence that in the Middle East the Hittites around 1320 BCE sent rams infected with the bacterial disease tularemia (rabbit fever) to their enemies, the Arzawans, after which an outbreak of tularemia ravaged the Arzawan community. Although the evidence of intentionality is not completely clear, one may reasonably speculate that the Hittites released the rams to the Arzawans in order to infect them.² If so, this would be the earliest documented use of biological weapons in war.

WMD have long been seen as raising special moral problems. In this essay, I consider the questions whether WMD are morally special, as in common perception they are, and, if so, what makes them so. The morality of war is traditionally divided into *jus ad bellum*, pertaining to the morality of engaging in war, and *jus in bello*, pertaining to the morality of how war is fought. Issues of the ethics of WMD lie within *jus in bello*, as the use of these weapons is a matter of how a war is fought. Historically, *jus in bello* rules have included those prohibiting the use of certain kinds of weapons, such as crossbows (among Christians, at least), dum-dum bullets, and some WMD. An interesting question about such rules is whether they are merely conventional, rules adopted by agreement to reduce the overall suffering of war, or instead express a deeper moral prohibition on behavior. Examining the ethical nature of WMD may throw some light on this broader question.

I.

Traditionally, nuclear, biological, and chemical weapons (NBC weapons) have been regarded as the three different types of WMD. These three types of weapons, regarded as WMD, are singled out for special legal opprobrium. Their status under international law is distinct from that of other weapons, which, to draw the contrast, are referred to as conventional weapons. Under international treaty, the possession of

biological and chemical weapons is prohibited.³ Nuclear weapons have a somewhat different legal status; their possession is not outlawed, at least for the major nuclear powers, but there are important legal restrictions on their use.

WMD have been regarded with strong moral opprobrium as well, and our question is whether and why this opprobrium is appropriate. A good way to begin the discussion is to inquire about whether it is appropriate for weapons of these three types to be conjoined into the category “WMD.” Is the conflation justified? Is the use of a single term to encompass all three types of weapons coherent and useful? For us there is an additional question: If the conflation of NBC weapons into the category of WMD is justified, is the feature in virtue of which they are appropriately aggregated morally relevant? Even if the single category combining them is justified on some grounds, the basis of the conflation may not be morally relevant. For example, if there is a special moral objection to dum-dum bullets, then the appropriateness of combining different kinds of projectiles into the category “bullets” to that extent lacks moral relevance. The morally relevant category in this case is more fine-grained. Here is an example from the other direction. It may be appropriate to group together all different sorts of large explosive projectiles into the single category of artillery shells, but the reason for this may not be morally relevant; perhaps what is morally relevant about artillery shells is something they share with weapons beyond that category, like other forms of explosives, such as mortars. It may be that the category WMD is inappropriate because it is either too broad or too narrow; and even if it is appropriate from a nonmoral perspective, it may not be appropriate from a moral perspective. On the other hand, if there is a morally relevant feature that justifies the WMD aggregation, this feature may be the one we are looking for, the one that makes WMD morally special.

Let us begin with a common criticism of the grouping. A number of authors have questioned the conflation of NBC weapons into a single category, though usually not explicitly in a way that touches on the issue of moral relevance. They argue that “WMD” should be “deconflated” because the characteristic of *mass destruction*, on its face, simply does not apply to all three of the subsidiary types?⁴ The term “mass destruction” does not apply to all three types of weapons (nor even to all of the weapons within each type). To understand the basis of this claim, consider briefly the nature of NBC weapons.

Nuclear weapons are weapons of *mass destruction* par excellence. Harnessing the tremendous energies that bind the nuclei of atoms, nuclear blasts are measured in the thousands or millions of tons of TNT equivalent. A single nuclear bomb can destroy a city, through blast and fire. In addition, it can create air-borne radiation that can do harm at a considerable distance in space and time from the site of the explosion. In contrast, chemical weapons are much less lethal. Chemical weapons are poisons that cause harm through direct contact. Compared with conventional explosives, they are less lethal, pound for pound, and are more difficult to use.⁵ During World War I, only two to three percent of the military personnel subject to poison gas attacks died, while those wounded by conventional weapons were ten to twelve times more likely to die, and it took over a ton of gas, on average, to kill a single soldier.⁶ Of course, modern chemical weapons, including nerve agents such as sarin, are more deadly. For example, one prediction is that a ton of sarin delivered perfectly under ideal conditions over a densely inhabited and unprepared area might produce three to eight thousand deaths. But if the conditions were less than ideal (for example, if the sun were shining or there were a light breeze) the death rate could be reduced by ninety percent.⁷ Chemical weapons are not only much less destructive than nuclear weapons, but, in some cases, even less destructive than equivalent measures of conventional explosives.

Biological weapons are between nuclear and chemical weapons in destructiveness. Biological weapons are living microorganisms, such as anthrax, deployed to cause harm to humans through reproducing in their bodies. They are potentially much more lethal than chemical weapons. For example, pound for pound, anthrax is capable of producing lethal concentrations over an area one thousand times larger than sarin.⁸ An attack with less than one hundred kilograms of aerosolized anthrax spores could result in three million casualties, “rivaling the lethality of a thermonuclear weapon.”⁹ The potential destructiveness of biological weapons is suggested by the fact that the influenza pandemic of 1918, the sort of event that biological weapons in the future might cause, killed an estimated 20 million people.¹⁰ Because biological agents are alive, they may adapt and mutate into more virulent forms.¹¹

At the same time, there remains a major gap between theory and practice in the case of biological weapons. In practice, these weapons are hard to manufacture and hard

to use, “for many of the same reasons that medicines are hard to make and don’t work unless administered precisely.”¹² While it may be fairly easy to culture at least some biological agents, such as anthrax, turning the agents into a useable and effective weapon is, for a number of reasons, much more difficult.¹³ This gap is important because, in judging the destructiveness of a weapon, practical difficulties such as the uncertainties of its effects must be taken into account in the estimation. The relevant measure is *expected destructiveness*, a function of our reasonable expectations about the effects of its application under real-world conditions. The expected destructiveness of biological weapons is significantly less than their ideal or potential destructiveness. In contrast, expected destructiveness of nuclear weapons is much closer to their ideal or potential destructiveness, given the high reliability of the weapons, once developed, and the lack of any effective defenses against them. So, the expected destructiveness of biological weapons is likely substantially less than that of nuclear weapons.¹⁴

From the perspective of expected destructiveness, then, the traditional category of WMD seems not to be an appropriate grouping. The implication is that “WMD” should be deconflated. With all NBC weapons included, “WMD” is too broad. Chemical weapons do not cause mass destruction, neither in an absolute sense, since they may be less lethal than conventional explosives, nor in a relative sense, in that they are orders of magnitude less lethal than nuclear and (likely) biological weapons. In terms of destructiveness, if chemical weapons were included as WMD, then conventional explosives would have to be included as well, given their roughly equal level of destructiveness, and the contrast with conventional weapons that “WMD” is meant to represent would be lost. Chemical weapons, and perhaps biological weapons, should be withdrawn from the category. As one commentator notes: “Subsuming these three types of weapons under the rubric of ‘weapons of mass destruction’ approaches the disingenuous. Biological and chemical weapons are not weapons of mass destruction.”¹⁵ What the term “weapons of *mass destruction*” implies about the nature of all WMD is inaccurate

Moreover, more than simply being inaccurate, the conflation of NBC weapons is misleading and dangerous. One problem is that “imprecision in analyzing and talking about ‘WMD’ threats obscures important policy choices.” For example, in the run-up to

the Iraq War in 2002-03, concern about Iraq's WMD arsenal was used extensively by supporters of the war to promote the idea that the United States should invade, but this argument made it difficult to provide a "rigorous cost/benefit analysis of the war."¹⁶ Whether the alleged WMD capacity was chemical or nuclear would have made a great deal of difference in the strength of the case for the war. The use of "WMD" obscured this difference. To lump the three together takes our eye off the much greater danger residing in some of them rather than others.

So, NBC weapons do not all share the characteristic of being capable of causing massive destruction. This characteristic, though it fails to justify the conflation of NBC weapons, is clearly relevant from a military perspective. It is also relevant from a moral perspective. The rules of *jus in bello* are concerned to reduce the destructiveness of war, so it is certainly a morally relevant feature of a weapon that it is capable of massive destruction. But perhaps we should not give up on the traditional term "WMD" quite yet. There may be another characteristic that not only applies to all (and only) NBC weapons (whether "WMD" is an appropriate name for the category), but which also is of moral relevance. This is the possibility I now explore.

II.

It may seem surprising that people have continued to use "WMD" to include all of the NBC weapons, when it should be obvious to anyone at all familiar with these weapons that not all of them are capable of massive destruction. Why do people stubbornly continue to use the label in this way? It may be that they implicitly recognize that there is a different characteristic that does justify the conflation, and one that is also morally relevant, which would then explain both the aggregation and the popular moral opprobrium toward WMD. We can get an indication of what this characteristic might be if we consider the two main principles of *jus in bello*, proportionality and discrimination. Proportionality is concerned with the total amount of damage expected from fighting in war, and the characteristic of mass destructiveness would be relevant in this regard. Discrimination, on the other hand, is concerned not with the amount of damage, but rather with the question to whom the damage is done. This principle calls for combatants to discriminate in who they attack, targeting only enemy combatants, not civilians. A serious moral wrong is to be *indiscriminate* in one's use of military force, attacking

civilians as well as combatants. Perhaps it is this characteristic that can unite all NBC weapons in a morally relevant way, both justifying the traditional WMD category and showing its moral importance.

But a conceptual problem arises from trying to claim that WMD are indiscriminate weapons. Combatants' actions, not the weapons they use, are what are classified as discriminate or indiscriminate. It seems that a weapon is discriminate or indiscriminate not in itself, but only in how it is used. Its discriminateness is a function not of the kind of weapon it is, but on the uses to which it is put. An explosive can be dropped on a rural military outpost or on an elementary school, its use being discriminate in the first case and indiscriminate in the second. Weapons don't kill civilians; combatants kill civilians. The most we could say about a weapon is that it is *contingently indiscriminate*, indiscriminate when used indiscriminately (and of course also contingently discriminate).

But some weapons are harder to use, or less likely to be used, discriminately. This suggests, at one end of such a scale, the possibility that some weapons either cannot be used discriminately, or, more weakly, are unlikely to be used discriminately. If there were such weapons, we could label them as *inherently indiscriminate*, meaning indiscriminate in all of their possible or likely uses. My argument will be that all three kinds of WMD are inherently indiscriminate.¹⁷

Consider nuclear weapons. Some claim that they are so powerful that any use of them will kill large numbers of civilians, which would make them inherently indiscriminate. On the contrary, however, while this claim was true early in the nuclear age, when the weapons were very large and not accurately deliverable, does it remain true today, when greater accuracy of delivery has gone hand in hand with reduction in yield of the individual nuclear weapons? Nuclear weapons have come to be regarded as "counterforce" rather than "countervalue" weapons, meaning that they could be effectively used against compact military targets rather than sprawling civilian targets, like cities. But this is not the whole story. First, it is unlikely that an attack with nuclear weapons by an established nuclear state would involve only a single warhead; if one military target was to be attacked, probably several would be, and this larger number would probably include military targets near to or in cities, resulting in many civilian

deaths. Second, if one state uses nuclear weapons, others are likely to use them in retaliation, and a serious risk of escalation would result. One cannot view the use of a single weapon in isolation, and with the use of many weapons would come massive civilian deaths. In general, it is not a reasonable expectation that the use of nuclear weapons, between nuclear powers, could be kept to a small number. Understood in context, then, nuclear weapons cannot be used without a high likelihood of massive civilian deaths, and this is why they are inherently indiscriminate.

The situation with biological and chemical weapons is different, though the conclusion is the same. These weapons are not very useful militarily, at least at the tactical level.¹⁸ Their effects are not very controllable or predictable. They are subject to local environmental conditions, such as wind and sunlight, and their deleterious effects on combatants may be delayed (especially in the case of biological weapons), so that they may be of little help in an on-going battle. In addition, they are unable to destroy weapons and military infrastructure, and combatants can protect themselves from the weapons with respirators, special clothing, or inoculations.¹⁹ Biological and chemical weapons might be effective at the operational or theater level (that is, at the level of attacks against military infrastructure), but such uses occur not on the battlefield, but in rear positions likely to be in populated areas.²⁰ Moreover, in such attacks civilians are more likely to die than combatants because civilians are less likely to have special forms of protection.²¹ But biological weapons do have strategic, countervalue uses directly against population centers and economic targets.²² Thus, chemical and biological weapons, if they are used at all, are likely to be used in ways that involve the deaths of large numbers of civilians. They are unlikely to be used tactically, where massive civilian deaths might be avoided, because they are generally not militarily effective at that level, or not as effective as alternative conventional means. In this sense, chemical and biological weapons also are inherently indiscriminate; like nuclear weapons, they are unlikely to be used without large-scale civilian casualties.²³ Given the impact their use would have on civilians, NBC weapons are all terror weapons.

III.

The claim that NBC weapons are all inherently indiscriminate, however, faces two further objections. First is the issue of the intentionality with which these weapons

might be used. Second is the fact that some biological and chemical weapons may be nonlethal.

The first of these objections is a more elaborate way of presenting the earlier criticism that it is not the weapons themselves, but the uses of them, that are discriminate or indiscriminate. The issue of *intention* figures prominently in our understanding of discrimination. What this principle prohibits are attacks *directed* at civilians, where their destruction is part of what is intended in the attack. The principle does not rule out all attacks that happen to have civilian casualties. This is indicated by the principle's being interpreted under the *doctrine of double effect*, which holds that an attacker is not fully responsible for those effects of the attack that are foreseen but not intended. Merely foreseen civilian deaths are not ruled out by the principle of discrimination. Thus, even a necessarily indiscriminate weapon could be used in a discriminate way, if one's intentions in the attack are not directed at civilians. This criticism, however, fails to recognize that, because WMD have few or no effective counterforce uses, they are almost certain to be used, if they are used, in a countervalue way. WMD are good at killing civilians, and this is about the only thing they are good at, at least compared with conventional weapons, so any use of them can be expected to be for this purpose, even if in theory one could use them for a counterforce purpose. The indiscriminate intention would almost always be there. Analogously, although one could use a sledgehammer to kill flies, the claim that one was not intending the great havoc that the use of a sledgehammer would involve is not plausible. If you were merely going after the flies, you would have used another tool.

This point is strengthened by considering the role of deterrence in military policy. States acquire weapons, in part at least, to deter their use by others. For the sake of deterrence, it is important for a state to have weapons of the same magnitude of effect as those of its opponents because otherwise the deterrent may not be credible. If state A is capable of imposing much more damage on state B than B is on A, then B's threat of military retaliation against A will lack credibility because A has a higher level of damage it can threaten in response. This deterrent logic is especially true in the case of WMD, which have effects that conventional weapons do not. States believe that only the possession of WMD can effectively deter WMD attacks. This is why the dynamic behind

nuclear proliferation has historically been the felt need of states to acquire nuclear weapons once their opponents had them. So, if two opponents have WMD, each will intend to use them to kill the other's civilians because having this intention is a crucial part of an effective deterrent threat against the other's use of them. Thus, the threat of retaliation by WMD must be a countervalue threat, not (or not only) a counterforce threat. The inherent indiscriminateness of these weapons insures that, if used against an opponent with WMD, they will be used with an indiscriminate intention.

This has an important moral implication, namely, that when weapons are inherently indiscriminate, as NBC weapons are, it is not only their use in war that is morally prohibited, but their possession as well. They are possessed for the sake of deterrence, and deterrence involves threats to use the weapons, and these threats are threats of indiscriminate retaliation. Such threats are ruled out by the principle of discrimination because they involve a (conditional) *intention* to attack indiscriminately. The deterrer must have a commitment to actual use of the weapons, if attacked, since a bluff is unlikely to be effective. The principle of discrimination requires that one's military intentions be discriminate, and because deterrence with inherently indiscriminate weapons necessarily involves an indiscriminate intention, such a policy, and therefore possession of the weapons for its sake, is morally unacceptable.

The second objection concerns the differences not *among* the three types of WMD, but *within* two of the three types, biological and chemical weapons. My claim has been that all NBC weapons belong in the WMD category, but an alternative view is that, while all nuclear weapons belong in this category, not all BC weapons do. Some forms of chemical weapons are incapacitating but not lethal, and the same may be true for some forms of biological weapons as well. Tear gas, for example, is a nonlethal chemical weapon. While the use of nonlethal agents in war may, strictly speaking, be indiscriminate, to the extent that it is directed at civilians, if the resulting harm, such as being rendered briefly unconscious, is little more than an inconvenience for its victims, there is reason to treat this harm as much less morally problematic than the civilian harm imposed by lethal forms of WMD. This would be a reason to exclude nonlethal chemical and biological weapons from the category of WMD understood as a group of weapons that share a common morally relevant property. The traditional concept of WMD would

then be too broad not because one or two of the three types of weapons should be excluded, but because some of one or two of the kinds should be excluded. On this view, WMD as a morally relevant category would include all nuclear weapons but only the lethal forms of biological and chemical weapons. I have no problem with such a conclusion, since my main purpose has been to determine why WMD are morally special. Having determined that it is their inherent indiscriminateness, I feel free to drop whatever members within each of the three kinds of WMD fail to satisfy this criterion.

But there is more to be said on the matter.²⁴ The distinction between acceptable and unacceptable (nonlethal and lethal) chemical and biological weapons is difficult to draw. The alleged distinction is similar to the distinction between acceptable and unacceptable (counterforce and countervalue) nuclear weapons. Part of the argument, outlined earlier, against the relevance of the latter distinction is that any counterforce use of nuclear weapons is very likely to be part of, or to escalate to, a nuclear exchange involving large-scale civilian deaths. So, counterforce uses of nuclear weapons should be regarded as inherently indiscriminate because they are likely to be part of an indiscriminate attack or to initiate an indiscriminate exchange. One implication of this is that it is unlikely that a *firebreak* could be maintained between counterforce and countervalue uses of nuclear weapons. To avoid indiscriminate destruction, it is much more effective to have a firebreak between conventional and nuclear weapons (since this is a distinction that can be easily drawn) than between two kinds of uses of nuclear weapons. There is an analogous argument against the distinction between acceptable and unacceptable chemical and biological weapons. The use of acceptable (nonlethal) chemical and biological weapons is likely to lead to the use of unacceptable (lethal) forms or other indiscriminate weapons. The time-scale for such escalation may be more extended than in the nuclear case, but perhaps as inexorable. Once the barrier between conventional weapons and chemical or biological weapons has been crossed by the use of nonlethal forms of the latter, lethal forms of these weapons will very likely be used when they are seen to be useful from a countervalue perspective. Better that the firebreak be between BC weapons and conventional weapons, not between different sorts of BC weapons.

The problem in line-drawing is exacerbated by the difficulty in making the distinction at all. The difference is a matter of degree rather than a difference in kind. All biological and chemical agents will probably kill some and merely sicken others, depending on the conditions of the victim and the environment. In the case of a “lethal” gas, those further out from the center of the attack and more on the fringes of the attack cloud will not receive a lethal dose and may only be sickened. In the case of a “nonlethal” gas, the strength needed to render unconscious most of those in the attack area will likely guarantee that some of those at the center of the attack cloud will die. The gas will be more concentrated at the center than at the fringes, and the more concentrated it is, the more likely the victims will die instead of merely being rendered unconscious. Couple this with the fact that the ratio of those killed to those only sickened or rendered unconscious will vary widely depending on the environment of the target area. So, how does one draw the lethal/nonlethal line? In addition, civilians are more likely to die whichever agent is used because they are, on average, physically weaker than combatants and have less access to protection. Effective prohibitions depend on sharp line drawings or firebreaks, which is why the goal of prohibiting lethal chemical and biological weapons is much more achievable when the rule is to ban all chemical and biological weapons.

Such considerations provide a strong pragmatic argument for regarding all forms of chemical and biological weapons, whatever their degree of lethality, as included within the category of WMD. Given the firebreak problem, if our concern, from the perspective of discrimination, is to prohibit the use of all inherently indiscriminate weapons, a better rule to promote, and for that purpose to embody in our definition, is one that prohibits all forms of those weapons, many of whose forms are inherently indiscriminate. This would yield the following rough definition of WMD.²⁵

Weapons of mass destruction are those weapons that either are themselves inherently indiscriminate or are in classes of weapons many of whose members are inherently indiscriminate. Weapons are inherently indiscriminate when their use is very likely to involve (or lead to) the killing of large numbers of civilians.

This definition implies that all nuclear, biological and chemical weapons should be included as WMD, from the perspective of the principle of discrimination, and this affirms the content of the traditional concept of WMD.

A good definition, however, should provide both necessary *and* sufficient conditions for the application of a term. In the discussion so far, I have focused on inherent indiscriminateness (or the more complicated form of this condition in the above definition) as a necessary condition by asking whether, in terms of this feature, the traditional concept of WMD is too broad. But if this condition is also regarded as sufficient, the traditional concept may be too narrow. Perhaps there are weapons besides NBC weapons that are inherently indiscriminate, and, from the perspective of discrimination, the traditional concept should be expanded. A number of suggestions have been made of additions to the WMD category, for example, antipersonnel land mines, cluster bombs, and radiological weapons. All three appear, on our characterization, to be inherently indiscriminate. Many civilians have been killed (or maimed) by land mines and cluster bombs left over after a battle or a war, and a significant number of such deaths would seem to be inevitable, given the nature of the weapons. Radiological weapons (“dirty bombs,” conventional explosives designed to disperse radioactive material) seem clearly to be weapons with no apparent counterforce military purpose, but simply designed to terrorize civilians and disrupt civilian activities. So, there is good reason to expand the traditional category of WMD to include these and perhaps other kinds of weapons, which is to say, there is a strong moral argument in terms of the principle of discrimination to prohibit them.

But focusing on discrimination rather than proportionality as the moral principle in virtue of which it is appropriate to group NBC weapons as WMD implies that the traditional category of WMD, though appropriately constituted, is misnamed. As we have seen, it is not mass destructiveness that unites NBC weapons. Wolfgang Panofsky observes that this grouping would be more appropriately named “weapons of indiscriminate destruction.”²⁶ Indeed, a more descriptively accurate name for WMD is *weapons of indiscriminate destruction* (WID).

So, the tradition of grouping NBC weapons together, yielding the traditional category of WMD, is justified by the morally relevant feature they share (though this

grouping is better named WID than WMD). The feature is that weapons of these types are inherently indiscriminate, and thus involve an indiscriminate intention, whether is use or in mere possession for the sake of deterrence. One thing this shows, by the way, is that the conventions against the use of WMD that are historically part of just war theory are not mere conventions but arise from a deeper moral foundation. They are morally defensible independent of their being matters of international agreement because the principle of discrimination which underlies the prohibition of these weapons, I would argue, is not itself a mere convention, but is rooted in moral right of all individuals not be attacked unless they have done something that justifies such an attack.

IV.

But, after having so far attempted to link NBC weapons from a moral perspective, I from here take a different tack for the remainder of the essay. While NBC weapons are indeed connected in this morally relevant way (through inherent indiscriminateness), from a different moral perspective it is appropriate to distinguish among the three types. There is another feature of nuclear weapons (and perhaps biological weapons) with special moral relevance. Nuclear weapons are a strategic deterrent, that is, through their countervalue capability, they create deterrence at the strategic, not the tactical (or counterforce), level. More specifically, nuclear weapons allow for a capacity known as *assured destruction* (AD), and thus may be referred to as *weapons of assured destruction* (WAD). Nuclear weapons are so powerful that they make it possible for one state to destroy another. A relatively small number of nuclear weapons can destroy the several largest cities of a state, effectively putting an end to it as an organized political entity, and no defense against such an attack is possible. More than this, if a state's nuclear warhead delivery systems are relatively invulnerable to surprise attack, as is now usually the case, it has a "second-strike nuclear force," meaning that it has a capacity to destroy its opponent even after being struck first.²⁷ This is an AD capacity.

When opponents each have an AD capacity, they are in a relationship of *mutual assured destruction* (MAD). This was the relationship of the United States and the Soviet Union during most of the cold war. Many strategists regard MAD as a very stable condition, greatly lessening the likelihood of war. Each opponent recognizes that any war between them would likely lead to its own destruction, so that there could be no overall

benefits to aggression. There is consequently a great disincentive to initiate war. The possibility of the MAD relationship came into existence during the cold war, with the development of nuclear weapons and their delivery systems, but it is not historically limited to that time period. MAD is a permanent possibility created by our technological capacities. It exists now, for example, in the relationships between the United States and China and between India and Pakistan.

Do other WMD make possible an AD capacity and a MAD relationship? Chemical weapons do not because they are, relatively speaking, not very destructive, not destructive enough to threaten the existence of a state. What about biological weapons? We saw earlier that biological weapons rival (and perhaps even exceed) nuclear weapons in potential destructiveness, though, due to practical difficulties, their expected destructiveness is less. In theory, biological weapons could destroy a society not by flattening its cities, but by killing its people and the agriculture on which human life depends, suggesting that they could become a strategic deterrent creating the possibility of an AD capacity and a MAD relationship.

The case for biological weapons as a strategic deterrent is offered by Susan Martin. “Like nuclear weapons, biological weapons are primarily useful as a strategic deterrent.”²⁸ She grants that there are differences between nuclear and biological weapons, but argues that biological weapons can be a strategic deterrent nonetheless. The reason is that “effective deterrence requires only a small possibility of great destruction.”²⁹ Though biological weapons could not destroy a state with the swiftness or certainty of nuclear weapons, the effectiveness of the threat does not require such speed and certainty. This is the view that strategic deterrence through the capacity for AD, is *rugged*, meaning that it is effective even when the likelihood of the retaliatory societal destruction is significantly less than certain. Societal destruction is such a catastrophic outcome that any leader of a state would act cautiously in the face of its prospect, even when that prospect falls well short of a certainty.

Whether or not biological weapons can create an AD capacity, chemical weapons cannot, so the characteristic of creating an AD capacity does not apply to all three types of WMD or WID. Nuclear weapons, and perhaps biological weapons, unlike chemical weapons, are not only WID but also *weapons of assured destruction* (WAD), in that they

create an AD capacity. Is the characteristic of creating an AD capacity, like the characteristic of inherent indiscriminateness, morally relevant? I argue that it is.³⁰ As we have seen, the mere possession of WID is morally unacceptable because possessing them involves the deterrent intention to attack with them, which is an intention to attack indiscriminately. But things may be morally different when a state's WID are also WAD and the state faces an opponent that has such weapons as well, creating a MAD relationship. Because having an AD capacity is morally unacceptable, the same should be true of being a party to a MAD relationship. But there are moral complications to a MAD relationship that go beyond the moral status of having an AD capacity considered by itself. MAD is a state of mutual deterrence in which each side makes countervalue threats (threats to destroy the other's society) in order to dissuade the other from carrying out its own countervalue threats. When each side in a MAD relationship is considered by itself, it is doing what is morally unacceptable by possessing WID, but when each side is viewed in the context of the AD capacity of its opponent, matters are not so clear.

Earlier I argued that a state must have WMD or WID to effectively deter an opponent such weapons, based on the claim that the only effective way to deter an opponent is to threaten that opponent with a level of harm as severe as that which the opponent threatens. Otherwise the opponent might not be deterred from engaging in aggression at a lower level of harm, expecting that the state would not retaliate out of fear that the opponent would then impose the severe harm that the state is, by hypothesis, incapable of inflicting in response. If the opponent has an AD capacity, and so threatens societal destruction, the state must, to deter the opponent, be capable of making a threat of equal severity, that is, it must have its own AD capacity. The moral complication is that a state morally has a right to have such a capacity in such a situation because this is a matter of its own defense. This implies that participating in a MAD relationship, being a case of self-defense, is morally permissible. This is an implication of *jus ad bellum*. Thus, being part of a MAD relationship is permissible according to *jus ad bellum*, while being morally prohibited, as involving indiscriminate intentions, under *jus in bello*. This is the moral paradox created by nuclear weapons, and perhaps by biological weapons as well. When an opponent has an AD capacity, a state is morally entitled to an AD capacity of its own, but the possession of this latter capacity, involving indiscriminate intentions, is

morally prohibited. In a sense, WAD place *jus ad bellum* and *jus in bello* in conflict with each other. The problem is that in traditional just war theory, the restrictions and permissions of *jus ad bellum* are not conditioned on the restrictions or permissions of *jus in bello*, and vice-a-versa. Weapons with the capacity for AD throw just war theory into inconsistency and thereby challenge our traditional moral understanding of military force.

V.

Thus, the potential to create an AD capacity is a morally relevant characteristic because it allows a situation in which there is a moral conflict between permissible self-defense and prohibited indiscriminate threats. WAD are impermissible to possess by themselves, but at the same time permissible to possess when one's opponent has them. Having an AD capacity alone is impermissible, but being part of a MAD relationship, which requires having an AD capacity, is also not. This is an argument, then, that nuclear and (perhaps) biological weapons should be grouped together, under the label WAD, to the exclusion of chemical weapons. This argument for the deconflation of the traditional WMD category tracks the earlier argument for deconflation of the category, which was based on the claim that not all the weapons included under the traditional category are capable of mass destruction. The reason for this is not far to see. Being able to cause mass destruction is what is needed to create an AD capacity.

So, there are moral reasons for the WID grouping (which is the traditional WMD grouping) and moral reasons for a new WAD grouping. Each grouping is based on a morally relevant characteristic. The problem is that some WID are also WAD. There is, of course, no question of which grouping is the *correct* one, as we are free, so long as there is some commonality, to define groupings any way we choose. But there are pragmatic arguments for doing this one way rather than another. There are some strong pragmatic arguments for emphasizing the WID grouping over the WAD grouping. I spoke earlier of the stubborn way in which people cling to the practice of grouping NBC weapons together, under the traditional WMD label, despite obvious differences in destructiveness among them. The WID grouping (under the label WMD) corresponds to the way that NBC weapons are grouped in common parlance, and, more importantly, the preference for this grouping exhibits itself in the common moral abhorrence people have toward all of the weapons in the grouping. This moral abhorrence is the basis of a *taboo*

or moral convention that has grown against the use of these weapons. This taboo is based in part on the characteristic that NBC weapons share, namely, their inherent indiscriminateness. It is probably also based on repugnance toward the ways in which lethal chemicals, disease organisms, and nuclear radiation do their human damage. In any case, we have every reason to strengthen this taboo. Because NBC weapons are grouped together by a general moral abhorrence, leading to the creation and strengthening of a taboo against the use of any of them, it is useful to keep them grouped together.

Nina Tannenwald, who has written extensively on the nuclear part of the WID taboo, observes:

Recently, some analysts have suggested that nuclear weapons should be categorized separately from chemical and biological weapons because nuclear weapons are much more lethal, and because the latter two are not really weapons of mass destruction. The nuclear taboo, however, benefits from its discursive association with formally banned weapons.³¹

The analysts she is speaking of are some of those we cited earlier as arguing for WMD deconflation. But, as she claims, the association among NBC weapons, under the WID grouping, strengthens the nuclear taboo. I suggest that the taboos against the use of each of these types of weapons are mutually reinforcing. (The taboo against the use and possession of chemical and biological weapons is shown in their being prohibited, as Tannenwald notes, under international law.) The *mutually reinforcing taboos* within the WID grouping are a strong reason keeping the connection among these weapons present to consciousness, and so is a reason for emphasizing the WID grouping.

But, unfortunately, taboos are double-edged. There are indeed some pragmatic arguments *against* emphasizing the WID grouping. Taboos are great so long as they work, but when they fail, they may subsequently fail whole-sale, especially when the original failure does not cause the sky to fall. An “anything goes” attitude can result: Once you have slept with your mother, is there anything you cannot do? This negative tendency of a taboo is a reason to emphasize the WAD grouping over the WID grouping. Of course, this is a highly contingent matter, and a failure of a taboo can in some circumstances lead

to its being strengthened. This contingency is seen in the speculation about whether a single “successful” use of a nuclear weapon would lead to more general use of such weapons or instead to a redoubling of humanity’s commitment never to use them again. The danger from such a taboo abandonment may be greater in the case we are considering, given the way in which the weapons it covers do differ in destructive potential. It is possible, for example, that the breaking of the WID taboo by the “successful” use of chemical weapons could lead to a further breaking of the taboo in the case of nuclear weapons.³² Nothing about nuclear weapons, in particular, or WID in general, is morally simple or straightforward.

Notes

¹ This essay is a further development of the material in my earlier essay, “Weapons of Mass Destruction: Are They Morally Special?” in Larry May (ed.), *War: Essays in Political Philosophy* (Cambridge, UK: Cambridge University Press, 2008) pp. 165-186; some of the passages in this essay are adapted from the latter.

² Roxanne Khamsi, “Were ‘cursed’ rams the first biological weapons?” *NewScientist*, November 26, 2007; <http://www.newscientist.com/article/dn12960-were-cursed-rams-the-first-biological-weapons-.html>, accessed 9/9/08

³ For a discussion of these and other matters concerning the legal status of WMD, see Paul Szasz, “The International Law Concerning Weapons of Mass Destruction,” in Sohail Hashmi and Steven Lee (eds.), *Ethics and Weapons of Mass Destruction* (Cambridge University Press, 2004), pp. 43-70, esp. pp. 51-65.

⁴ This expression is due to George Perkovich, “Deconflating ‘WMD’,” a 2004 paper by the Weapons of Mass Destruction Commission, accessed 1/16/07 at www.wmdcommission.org.

⁵ Gregg Easterbrook, “Term Limits,” *The New Republic* 227, no. 1 (October 7, 2002), pp. 22-25, at p. 22.

⁶ John and Karl Mueller, “Sanctions of Mass Destruction,” *Foreign Affairs* 78, no. 3 (May/June, 1999), pp. 43-53, at p. 47.

⁷ The Office of Technology Assessment, Cited in Mueller and Mueller, “Sanctions,” pp. 46-47.

⁸ Susan Martin, “Weapons of Mass Destruction: A Brief Overview,” in Hashmi and Lee (eds.), *Ethics and WMD*, pp. 16-42, at p. 32.

⁹ Office of Technology Assessment report cited in Gregory Koblenz, “Pathogens as Weapons,” *International Security* 28, no. 3 (winter 2003/04), p. 88.

¹⁰ John Steinbruner, “Biological Weapons: A Plague Upon All Houses,” *Foreign Policy* 109 (Winter 1997-98), pp. 85-96, p. 85.

¹¹ Steinbruner, “Biological Weapons,” pp. 87-88.

¹² Easterbrook, “Term Limits,” p. 24.

¹³ Martin, “Weapons of Mass Destruction,” p. 32.

¹⁴ But this claim should be qualified in two respects. First, the current practical impediments in the manufacture and use of biological weapons may be overcome by future technological developments, and second, recent developments in biotechnology hold out the prospect for the development of biological agents whose potential destructiveness is much greater.

¹⁵ Philip Morrison and Kosta Tsipis, “Rightful Names,” *Bulletin of the Atomic Scientists* 59, no. 3 (May/June, 2003), p. 77.

¹⁶ Perkovich, “Deconflating,” pp. 4, 9.

¹⁷ Some of the argument in the next few paragraphs is taken from Sohail Hashmi and Steven Lee, “Introduction,” in Hashmi and Lee (eds.), *Ethics and WMD*, pp. 1-15, pp. 9-10.

¹⁸ See Brad Roberts and Michael Moodie, “Biological Weapons: Toward a Threat Reduction Strategy,” *Defense Horizons*, paper #15, Center for Technology and National Security Policy, National Defense University (July 2002), p. 2. See also, Susan Martin, “The Role of Biological Weapons in International Politics: The Real Military Revolution,” *Journal of Strategic Studies* 25, no. 1 (March 2002), pp. 63-98, at pp. 71-76.

¹⁹ M. I. Chevrier, “Deliberate Disease: Biological Weapons, Threats, and Policy Responses,” *Environment and Planning C—Government and Policy* 11 (1993), pp. 395-417, p. 409.

²⁰ Koblentz, “Pathogens as Weapons,” pp. 99-100.

²¹ Szasz, “International Law,” p. 43.

²² For a discussion of the role of biological weapons at the strategic levels see Martin, “Biological Weapons in International Politics,” pp. 76-80.

²³ Admittedly, this sense of inherently indiscriminate is weaker than the sense that it is impossible to use NBC weapons in a discriminate way, and closer to the sense that it is practically impossible, or almost impossible so to use them. But this weaker sense is sufficient to establish these weapons as morally different from conventional weapons, all of which can readily be used discriminately.

²⁴ There is an excellent discussion of these issues in George Quester, “Review: Chemical and Biological Warfare,” *American Political Science Review* 68, no. 3 (September 1974), pp. 1285-1291.

²⁵ See Hashmi and Lee, “Introduction,” p. 10.

²⁶ Panofsky, “Dismantling,” p. 4.

²⁷ For a discussion of AD in its historical context, see Lawrence Freedman, *The Evolution of Nuclear Strategy* (New York: St. Martin’s Press, 1981), pp. 245-256.

²⁸ Martin, “Biological Weapons in International Politics,” p. 63.

²⁹ Martin, “Biological Weapons in International Politics,” pp. 76-80.

³⁰ See Steven P. Lee, *Morality, Prudence, and Nuclear Weapons* (New York: Cambridge University Press, 1993).

³¹ Nina Tannenwald, “Stigmatizing the Bomb: Origins of the Nuclear Taboo,” *International Security* 29, No. 4 (Spring 2005), pp. 5–49, quotation from p. 48.

³² This possibility may be behind the concern some analysts had regarding the apparent threat of the first Bush administration of nuclear retaliation against Iraq should it have used chemical weapons in the first Gulf War. (The situation is described in Scott Sagan, “Realism, Ethics, and Weapons of Mass Destruction,” in Hashmi and Lee (eds.), *Ethics and Weapons of Mass Destruction*, pp. 73-95, at p. 81.) The concern was that such a threat would increase the risk of nuclear use. This possibility is also behind the concern, referred to earlier, that people had about the roll of the term “WMD” in the arguments for the 2003 Iraq invasion.