

Occasional Paper 8

Defining “Weapons of Mass Destruction”

W. Seth Carus

Revised and Updated

Center for the Study of Weapons of Mass Destruction
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Foreword

In January 2005, the Defense Threat Reduction Agency (DTRA) asked the author to research the meaning of “weapons of mass destruction” (WMD). DTRA’s interest arose from the decision of Secretary of Defense Donald Rumsfeld to make U.S. Strategic Command (USSTRATCOM) “the lead combatant commander for integrating and synchronizing DOD [the Department of Defense] in combating WMD.”¹ This mandate, however, posed a problem. The Joint Staff’s *DOD Dictionary of Military and Associated Terms*, the Department’s repository for officially sanctioned definitions,² specified that WMD are weapons “capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people” and “can be *high explosives* or nuclear, biological, chemical, and radiological weapons.”³ The mention of high explosives created an obvious problem: most military weaponry relies on high explosive charges, meaning that even the mortars and grenades used by infantrymen might qualify as WMD. DOD’s WMD definition seemed to assign USSTRATCOM oversight over almost all U.S. fighting forces, which clearly was not the Secretary’s intent.

Although DOD needed to revise its definition for WMD, the choice of a replacement was not obvious. Preliminary research revealed a complete lack of consensus on the term’s meaning. U.S. Government entities had adopted nearly 20 alternative definitions for WMD, and this did not count additional definitions used by international organizations or state governments. DOD first adopted a WMD definition in 1961. In 1998, it replaced that definition with the one that posed such obvious problems 7 years later. The 1998 definition made DOD usage consistent with the U.S. Federal law enforcement community, which considered high explosive weapons and certain small arms as WMD. While the new definition may have facilitated interactions with domestic law enforcement, it also was clear in 2005 that it did not serve DOD’s own interests.

After some consideration, DOD finally adopted a new definition with the release of the June 2009 revision of Joint Publication 3–40, *Combating Weapons of Mass Destruction*. This new definition limited WMD to “chemical, biological,

radiological, and nuclear weapons capable of a high order of destruction or causing mass casualties.”⁴ The new version was derived from the 1961 definition.

When the original version of this occasional paper appeared in January 2006, DOD was still debating how to revise its WMD definition. Accordingly, the paper focused on framing the issues that confronted DOD in selecting a new definition. This revised edition takes into account developments during the past 5 years, and it reduces the focus on DOD-specific considerations. The result is an updated and reorganized review of the topic intended for readers interested in better understanding issues related to the proliferation and control of weapons of mass destruction.

The paper has three main parts. Following a short introduction, the first section describes the origins of the term *WMD* and its subsequent use in arms control and disarmament negotiations. The second section discusses how the national security and law enforcement communities use the term. A third section dissects the main alternative definitions for WMD, including an assessment of the problems associated with their use.

Introduction

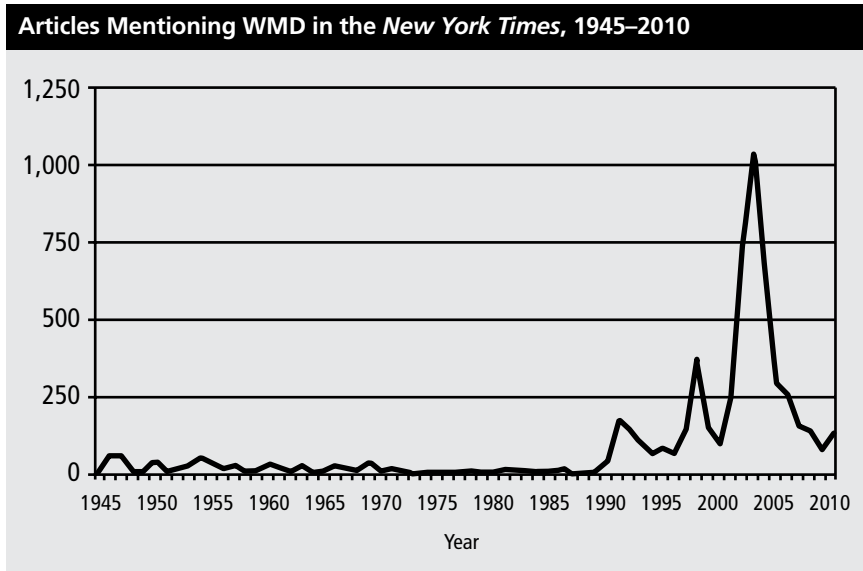
“When I use a word,” Humpty Dumpty said in rather a scornful tone, “it means just what I choose it to mean—neither more or less.” “The question is,” said Alice, “whether you can make words mean so many different things.” “The question is,” said Humpty Dumpty, “which is to be master—that’s all.”

—Lewis Carroll, *Through the Looking Glass*

By the late 1990s, the term *WMD* was an integral part of American national security discourse, as evident by its growing usage. A full text search of the *New York Times* identified the number of stories every year from 1945 to 2010 using the term *WMD* or a variant (see figure).⁵ Other than 1973, the term appeared in at least one article every year during that 65-year period. During the late 1940s and early 1950s, it appeared in stories about 30 times every year, declining to an average of only 20 a year in the late 1950s and the 1960s. There were fewer than nine stories every year on average during the 1970s and 1980s. In other words, contrary to common belief, the term was more common at the start of the Cold War than at the end.

After the end of the Cold War, however, the term saw increasing usage. It appeared an average of more than 100 times a year in the early 1990s and an average of 160 times a year in the late 1990s (peaking at 370 appearances in 1998). Heaviest use of the term *WMD* occurred during and after the 2003 invasion of Iraq: 1,069 stories in 2003 and 632 stories in 2004. Indeed, it appeared so often in 2002 and 2003 that *WMD* made lists of the most used or overused phrases.⁶ After that, the frequency declined precipitously, and now appears to have returned to about the same average rate as found during the late 1990s. Although often associated with the administration of George W. Bush, his two predecessors also used it extensively.

Despite the extensive use of the term during the past two decades, there is a widespread perception that it has no accepted definition and that it means whatever the user wants it to mean. The views of one academic are representative of this perspective:



The phrase “weapons of mass destruction,” for example, is an amorphous one, changing meaning according to the whims of the speaker. Raising the specter of WMD is more a way by which politicians assign blame or take a stand on seemingly objective moral standards than a way by which they assess a particular weapons system.⁷

Because many analysts find fault with existing definitions, they offer new definitions that differ in some radical way from those commonly accepted.⁸ Still others, believing that the traditional definitions for WMD are intellectually problematic, propose dropping the term altogether.⁹

Recognizing these disagreements, the 2004 British government review of Iraq WMD intelligence offered the following comment:

There is a considerable and long-standing academic debate about the proper interpretation of the phrase “weapons of mass destruction.” We have some sympathy with the view that, whatever its origin, the phrase and its accompanying abbreviation is now used so variously as to confuse rather than enlighten readers.¹⁰

This paper rejects such arguments. Contrary to the views of many pundits, there is an authoritative definition for WMD. The term is integral to the international community's long-standing disarmament dialogue. In its original formulation, "weapons capable of mass destruction," the term appears in the very first resolution passed by the United Nations (UN) General Assembly in 1946.¹¹ By 1948, an alternate form, "weapons of mass destruction," became the preferred usage. Already it was so integral to discussions of disarmament that the United Nations tasked a committee to generate an authoritative definition. That committee generated the following definition:

[WMD are] . . . *atomic explosive weapons, radio active material weapons, lethal chemical and biological weapons, and any weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above.*¹²

Disarmament diplomacy has relied on that definition ever since.

The United States is party to three treaties that refer directly to controls on "weapons of mass destruction" in addition to those limiting specific types of WMD, such as the Nuclear Nonproliferation Treaty, the Biological Weapons Convention (BWC), and the Chemical Weapons Convention (CWC): the Outer Space Treaty; the Seabed Treaty; and the Strategic Arms Reduction Treaty (START).¹³ Given that these treaties impose specific obligations on the United States and other adherents to them, it is inconceivable that treaty negotiators thought WMD was an "amorphous" term that could mean whatever anyone wanted it to mean. Indeed, the U.S. State Department relied on the 1948 UN definition for WMD when explaining the terms of the Seabed Treaty during ratification hearings.¹⁴ Because of the legal obligations associated with U.S. adherence to these treaties, it is impossible to drop the term or arbitrarily adopt an alternative definition.¹⁵

The term has a precise meaning in other significant contexts as well. It appears in authoritative national security policy documents issued by the White House since the

early 1990s. Similarly, the Soviets adopted the term in their military doctrine starting sometime in the 1950s. It retains a place in contemporary Russian military doctrine.

As will become clear, however, the supposed “amorphousness” of the term has less to do with any lack of clarity than with the almost universal lack of familiarity with its history. From this perspective, a better definition is unnecessary. What is essential is a better understanding of the existing ones.

However, despite the relative clarity of the definition used in disarmament diplomacy, multiple additional definitions have appeared over the years. Some of these alternative definitions reflect the bureaucratic interests of particular departments and agencies (both the Department of Defense and the Justice Department have done so). Although the author identified more than 50 definitions with some official standing in the United States and elsewhere, most of them fall into one of six categories.

- ◆ WMD as nuclear, biological, and chemical weapons (NBC)
- ◆ WMD as chemical, biological, radiological, and nuclear weapons (CBRN)
- ◆ WMD as CBRN and high explosive weapons (CBRNE)
- ◆ WMD as CBRN weapons capable of causing mass destruction or mass casualties
- ◆ WMD as weapons, including some CBRN weapons but not limited to CBRN, capable of causing mass destruction or mass casualties
- ◆ WMD as weapons of mass effect capable of causing mass destruction or mass casualties or that cause mass disruption.

Diplomatic Origins of the Term *WMD*

The first known use of the term *weapons of mass destruction* dates to the December 1937 Christmas address on “Christian Responsibility” delivered by the Archbishop of Canterbury, William Cosmo Gordon Lang:

Take, for example, the question of peace. Who can think without dismay of the fears, jealousies, and suspicions which have compelled

*nations, our own among them, to pile up their armaments? Who can think at this present time without a sickening of the heart of the appalling slaughter, the suffering, the manifold misery brought by war to Spain and to China? Who can think without horror of what another widespread war would mean, waged as it would be with all the new weapons of mass destruction?*²¹⁶

While the Archbishop's remarks gave no clear indication of what he meant by WMD, there is no reason to believe, as some pundits assert, that he was thinking only of aerial bombardment and explosive weapons.¹⁷ The reference to the wars in Spain and China certainly suggests that the Archbishop had concerns about the widely publicized 1937 bombings of cities by the Fascists in Spain and the Japanese in China.¹⁸ However, the Archbishop was gravely concerned about the dangers of chemical weapons, having addressed the subject during a Parliamentary debate following the initial reports of the 1936 Italian chemical attacks in Abyssinia.¹⁹ Moreover, it is likely he was aware of concerns that a future European war would involve chemical attacks on cities.²⁰ It is even possible that he could have been aware of public discussions in the 1920s and 1930s relating to the potential threat of bacteriological (meaning biological) warfare.²¹ Although this is the earliest use of the term *WMD*, there is no reason to believe that subsequent uses resulted from the Archbishop's address.

As it happens, we know precisely the origins of the term's modern usage. On November 15, 1945, the President of the United States, the prime minister of the United Kingdom, and the prime minister of Canada issued a joint declaration calling for international control of atomic energy and advocating the creation of a UN commission to identify ways to bring atomic weaponry under control. Significantly, the declaration was not limited only to nuclear weapons:

Nor can we ignore the possibility of the development of other weapons [besides atomic weapons], or of new methods of warfare, which may constitute as great a threat to civilization as the military use of atomic energy.

...

In particular the [proposed UN] Commission should make specific proposals:

...

(c) For the elimination from national armaments of atomic weapons and of all other major weapons adaptable to mass destruction.²²

Subsequently, a senior State Department official told a military colleague that the reference to *weapons adaptable to mass destruction* reflected concerns that if the commission considered only atomic weaponry, its “recommendations would be lop-sided if in fact there were other important weapons on which similar controls should be placed.”²³

Vannevar Bush, who directed the U.S. Office of Scientific Research and Development during World War II, subsequently claimed credit for inserting the phrase into the text of the communiqué the night before the announcement. Dr. Bush was uniquely qualified. In his capacity as a Presidential advisor, he was intimately involved with the development of the atomic bomb. As the man responsible for ensuring that the U.S. military had full access to the products of science and technology during the war, he also was intimately familiar with the destructive potential of conventional weaponry. He fully understood that some conventional military attacks had devastated cities just as thoroughly as the atomic bomb attacks.²⁴ Nonetheless, he felt there was value in distinguishing atomic and certain types of weapons from conventional ordnance. According to Dr. Bush’s memoirs, he argued, and his British counterpart concurred, that the announcement needed to take into account the dangers posed by biological weapons:

We both thought that, while we were attempting to bring reason to bear on one terrible weapon, we might as well include another that could be equally terrible, and which might indeed have become so if the atomic bomb had not taken the center of the stage.²⁵

In other words, the original formulation of the term reflected a concern about both nuclear and biological weapons.

The terminology in the tripartite declaration quickly entered the lexicon of international disarmament diplomacy. Only a few months later, it was included in the very first resolution adopted by the UN General Assembly (January 24, 1946), which established a "Commission to Deal with the Problem Raised by the Discovery of Atomic Energy." The General Assembly directed that Commission to "make specific proposals . . . for the elimination from national armaments of atomic weapons and of all other *major weapons adaptable to mass destruction*."²⁶ The deadlock over nuclear weapons controls ensured that the UN Atomic Energy Commission never addressed the problem of "other major weapons adaptable to mass destruction."²⁷ As a result, it never clarified the General Assembly's resolution by defining the term.

The Commission on Conventional Armaments

The UN Commission on Conventional Armaments (CCA) generated the first authoritative WMD definition in 1948. The Security Council established the CCA in 1947 in response to a recommendation contained in General Assembly Resolution 41(I).²⁸ That resolution, which recommended the creation of such a committee, made three mentions of the need to eliminate or prohibit "atomic and all other major weapons adaptable now or in the future to mass destruction." The Security Council directed the commission to develop proposals for the reduction and regulation of armaments and armed forces, but told it to exclude any matters that were the responsibility of the Atomic Energy Commission.

The Security Council's mandate required the CCA to determine what was within its mandate and what was more appropriately within the purview of the Atomic Energy Commission. The result was a definition for WMD issued on August 12, 1948:

The Commission for Conventional Armaments resolves to advise the Security Council: 1. that it considers that all armaments and armed forces, except atomic weapons and weapons of mass destruction, fall within its jurisdiction, and that weapons of mass destruction should be defined to

*include atomic explosive weapons, radio active material weapons, lethal chemical and biological weapons, and any weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above.*²⁹

The CCA definition essentially equated WMD to CBRN, although it mentioned only lethal chemical and biological weapons. It also incorporated unspecified weapons “developed in the future” having the “destructive effects” of the specified CBRN weapons. Significantly, the Soviet Union voted against this resolution and blocked its submission to the Security Council in 1948.³⁰

Only in 1977 did the UN formally accept the 1948 WMD definition. In 1975, the Soviet Union proposed negotiation of a treaty banning the development and manufacture of all weapons of mass destruction. In the context of a 1977 UN General Assembly discussion of this proposal, the Soviets reversed their early position and overtly adopted the 1948 definition.³¹ This led the UN General Assembly to adopt Resolution 32/84, which contained the language formally accepting the CCA definition for use in disarmament diplomacy:

*Reaffirms the definition of weapons of mass destruction, contained in the resolution of the Commission for Conventional Armaments of 12 August 1948, which defined weapons of mass destruction as atomic explosive weapons, radioactive material weapons, lethal chemical and biological weapons and any weapons developed in the future which might have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above.*³²

General Assembly resolutions related to the “[p]rohibition of the development and manufacture of new types of weapons of mass destruction and new systems of such weapons” mentioned the CCA definition in 1996, 1999, 2002, 2006, and 2009.³³ A review of disarmament documents indicates that the international community believes that the CCA definition now incorporates all CBRN weapons, despite its stated limitation to “lethal” chemical and biological weapons, just

as the 1925 Geneva Protocol prohibits use of any biological agents, even though it mentions only "bacteriological" agents.³⁴

Treaties Controlling WMD

The United States has adhered to at least three treaties that place limitations generally on weapons of mass destruction (rather than specifically on nuclear, chemical, or biological weapons): the 1967 Outer Space Treaty, the 1972 Seabed Treaty, and the 1991 Strategic Arms Reduction Treaty. One additional treaty, the 1979 Moon Agreement, also contains language related to WMD, but the United States (and most of the international community) never signed it, and it has no legal significance. Additionally, the term *WMD* appears in the preambles of at least three other treaties: the 1967 Treaty for the Prohibition of Nuclear Weapons in Latin America,³⁵ the 1972 Biological Weapons Convention,³⁶ and the 1993 Chemical Weapons Convention.³⁷ In contrast, the 1968 Treaty on the Non-Proliferation of Nuclear Weapons does not use the term.

Outer Space Treaty

The 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (generally known as the Outer Space Treaty) prohibits placement of WMD in outer space.³⁸ The key language appears in Article IV:

*States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.*³⁹

The idea for this treaty emerged during the Eisenhower administration. In 1957, the Western powers submitted a draft treaty that limited use of space to peaceful and scientific purposes. The Soviet Union rejected this proposal.⁴⁰

Moscow offered its own draft treaty, which would have demilitarized outer space, and thus would have prohibited the presence of any weapons in space.⁴¹ In his September 29, 1960, address before the UN, President Dwight D. Eisenhower offered a counterproposal:

*We must not lose the chance we still have to control the future of outer space. I propose that . . . [we] agree, subject to appropriate verification, that no nation will put into orbit or station in outer space weapons of mass destruction.*⁴²

While these efforts did not produce results, they put the issues of WMD and outer space on the disarmament agenda.

President John F. Kennedy offered a proposal of his own in a September 25, 1961, address before the UN General Assembly:

*[W]e shall urge proposals extending the United Nations Charter to the limits of man's exploration in the universe, reserving outer space for peaceful use, prohibiting weapons of mass destruction in space or on celestial bodies, and opening the mysteries and benefits of space to every nation.*⁴³

In April 1962, the United States proposed a draft treaty for general and complete disarmament that incorporated the following language: "The parties to the treaty would agree not to place in orbit weapons capable of producing mass destruction."⁴⁴ The White House then initiated a comprehensive review of U.S. policy on disarmament in space. This ultimately led to an interagency recommendation that the United States support a ban on WMD in space. At the same time, the Kennedy administration issued a declaratory statement outlining its new position. On September 5, 1962, the Deputy Secretary of Defense, Roswell Gilpatric, gave a speech, reportedly cleared by President Kennedy, declaring, "We have no program to place any *weapons of mass destruction* into orbit."⁴⁵

Although both the United States and the Soviet Union were in complete agreement on the substance, the contentiousness of the Senate debate over the Test Ban Treaty made the President hesitant to negotiate another potentially controversial treaty. For that reason, President Kennedy favored passage of a General Assembly resolution over negotiation of a treaty. The result was UN General Assembly Resolution 1884 (XVIII):

The General Assembly

...

1. Welcomes the expressions by the Union of Soviet Socialist Republics and the United States of America of their intention not to station in outer space any objects carrying nuclear weapons or other weapons of mass destruction.

2. Solemnly calls upon all States:

(a) To refrain from placing around the Earth any objects carrying nuclear weapons or other kinds of weapons of mass destruction, installing such weapons on celestial bodies, or stationing such weapons in outer space in any other manner;

(b) To refrain from causing, encouraging or in any other way participating in the conduct of the forgoing activities.

The issue reemerged in 1966, when President Lyndon B. Johnson accepted a proposal from the State Department to push for negotiation of an outer space treaty. Following the language from the earlier discussions, a White House press release dated May 7, 1966, issued in the President's name, advocated, "No country should be permitted to station weapons of mass destruction on a celestial body."⁴⁶ Following bilateral discussions, the United States and the Soviet Union issued substantively similar draft texts. As a result, negotiating a final text required relatively little discussion, and the treaty opened for signature on January 27, 1967.

The definition of WMD was an issue during the Outer Space Treaty's 1967 Senate ratification hearings. The initial target of the questions was Arthur Goldberg, U.S. Ambassador to the United Nations, who was the lead U.S. negotiator:

The Chairman [J. William Fulbright]. *What are the other weapons of mass destruction?*

Mr. Goldberg. *Bacteriological, any type of weapons which could lead to the same type of catastrophe that a nuclear weapon could lead to.*

The Chairman. *I see.*

Mr. Goldberg. *It does not refer to any conventional weapon. It refers to a weapon of the magnitude of a nuclear, bacteriological weapon.⁴⁷*

This effort to define WMD in the context of the new treaty, however, did not accurately reflect the U.S. position at the time.⁴⁸ Deputy Secretary of Defense Cyrus Vance provided a more complete answer in a subsequent hearing:

Senator [John Sherman] Cooper. *The treaty refers to weapons of mass destruction as well as nuclear weapons. Can you give us some statement about that?*

Mr. Vance. *Yes, I believe it would include such other systems as chemical and biological weapons, sir, or any weapon which might be developed in the future which would have the capability of mass destruction such as that which would be wreaked by nuclear weapons.⁴⁹*

In contrast to the Goldberg definition, Vance mentioned both chemical weapons and future weapons having comparable effects, thus paralleling the language of the CCA definition.

Seabed Treaty

In 1972, the United States and the Soviet Union negotiated another treaty that also placed specific restrictions on WMD. Article I of the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-bed and the Ocean Floor and in the Subsoil Thereof, more commonly known as the Seabed Treaty, imposed restrictions on the geographic placement of WMD:

*The States Parties to this Treaty undertake not to emplant or emplace on the seabed and the ocean floor and in the subsoil thereof beyond the outer limit of a sea-bed zone, as defined in article II, any nuclear weapons or any other types of weapons of mass destruction as well as structures, launching installations or any other facilities specifically designed for storing, testing or using such weapons.*⁵⁰

The origins of this treaty date to 1967, when the Maltese delegate to the UN First Committee proposed negotiation of an agreement to ensure the peaceful use of the ocean's seabed. The Soviet Union tabled the original draft treaty, which would have banned any military facilities on the seabed.⁵¹

It took time for the United States to formulate an agreed-upon position on this new treaty. There was universal agreement in Washington that the United States could not accept a treaty along the lines of the one proposed by the Soviets, which would have limited the ability of the United States to deploy undersea submarine tracking facilities. At the same time, DOD objected to a treaty that might limit its ability to deploy nuclear weapons mounted on mobile platforms on the seabed. After considering the matter, President Johnson announced U.S. support for a partial limit on WMD in a 1968 speech to the UN General Assembly:

We must soon take up the question of arms limitations on the seabed in the light of the consideration being given by the General Assembly's Ad Hoc Committee on the Seabeds to a number of proposals for

*arms limitations on the seabed. Your conference should begin to define those factors vital to a workable, verifiable, and effective international agreement which would prevent the use of this new environment for the emplacement of weapons of mass destruction.*⁵²

Ultimately, the Defense and State Departments reached an agreement that directed the U.S. negotiator to deliver the following language:

*[T]he United States proposes that the ENDC [Eighteen-Nation Disarmament Committee, the predecessor body to the Committee on Disarmament] examine the question as to whether a viable international agreement may be achieved in which each party would agree not to emplace or fix weapons of mass destruction on the seabed or deep ocean floor.*⁵³

When President Nixon took office in 1969, his administration recognized that there was considerable international support for a seabed treaty.⁵⁴ The President, however, wanted to ensure that it would not detract from U.S. national security. Hence, while the administration opposed the Soviet desire for a treaty that would completely demilitarize the seabed, a seabed treaty negotiation allowed the United States to demonstrate its interest in nuclear arms control without requiring premature movement on strategic arms limitations.

One of the policy reviews conducted in the opening days of the Nixon administration focused on the prospects for a seabed treaty. The definition of WMD was an area of concern the review mentioned in its final report, issued at the end of February 1968. For that reason, the review recommended asking the ENDC negotiators, “What weapons should be included within the term ‘weapons of mass destruction?’” In formulating this position, the review team drew on a 1968 Joint Chiefs of Staff definition (quoted below), which differed significantly from the CCA definition:

As used by the U.S. “weapons of mass destruction” are those weapons that are [“]capable of a high order of destruction and/or of being

*used in such a manner as to destroy large numbers of people. They can be nuclear, chemical, biological, and radiological weapons, but excluding the means of transporting or propelling the weapon where such means is a separable and divisible part of the weapon.*⁵⁵ *The language of the proposal should clearly apply to such weapons.*⁵⁶

Note that this definition does not limit WMD to CBRN weapons ("can be"), nor does it necessarily include all CBRN weapons. The instructions provided to the negotiators explicitly directed them to discuss the meaning of WMD.⁵⁷ The available documents do not indicate whether that discussion ever took place, but it seems unlikely given the rapid pace of developments in the negotiations.

What becomes clear, however, is that the definition of WMD was not an issue, either in Washington or in Geneva. When the Soviets tabled a draft treaty prohibiting any military activities on the seabed, the Nixon administration countered with an alternative draft that only prohibited emplacement of nuclear weapons and other weapons of mass destruction. In doing so, there is no evidence that the administration considered the definition for WMD as controversial. The administration wanted to exclude any conventional weapons from the treaty, and apparently saw no need to carve out an exception for some kinds of CBRN weapons.

In fact, the record shows that the negotiations relied on the CCA definition, not the Joint Staff definition cited in the interagency paper tabled the previous year. This was evident from the remarks of Ambassador James Leonard, Deputy Director of the Arms Control and Disarmament Agency, during the Senate treaty ratification hearings:

Senator [Claiborne] Pell. *What would be your general definition of a weapon of mass destruction? What was the definition at the Geneva Conference?*

Mr. Leonard. *Mr. Chairman, the term "weapons of mass destruction" is one that has come into quite a number of international*

*documents, treaties and so on, and it has, I think, generally the meaning of embracing nuclear weapons, embracing also chemical and biological weapons, and then being open-ended, if I may express it that way, in order to take care of developments which one cannot specify at the present time, some form of weapon which might be invented or developed in the future, which would have devastating effects comparable to those of nuclear or biological or chemical weapons, but which one simply cannot describe at the present time.*⁵⁸

This is a clear restatement of the CCA definition (CBRN weapons, as well as possible future weapons).

Strategic Arms Reduction Treaty

The 1991 Strategic Arms Reduction Treaty reiterated the prohibitions contained in the Seabed and Outer Space Treaties. The operative section of START appears in Article V, paragraph 18:

18. Each Party undertakes not to produce, test, or deploy:

...

(b) launchers of ballistic or cruise missiles for emplacement on or for tethering to the ocean floor, the seabed, or the beds of internal waters and inland waters, or for emplacement in or for tethering to the subsoil thereof, or mobile launchers of such missiles that move only in contact with the ocean floor, the seabed, or the beds of internal waters and inland waters, or missiles for such launchers. This obligation shall apply to all areas of the ocean floor and the seabed, including the seabed zone referred to in Articles I and II of the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-bed and the Ocean Floor and in the Subsoil Thereof of February 11, 1971;

*(c) systems, including missiles, for placing nuclear weapons or any other kinds of weapons of mass destruction into Earth orbit or a fraction of an Earth orbit. . . .*⁵⁹

The reference to "fraction of an Earth orbit" clearly is an expansion of the prohibition in the Space Treaty.⁶⁰

These prohibitions are similar to the ones negotiated for the 1979 Strategic Arms Limitations Talks (SALT) II treaty, which the United States signed but the Senate refused to ratify:⁶¹

1. Each Party undertakes not to develop, test, or deploy:

. . .

(b) fixed ballistic or cruise missile launchers for emplacement on the ocean floor, on the seabed, or on the beds of internal waters and inland waters, or in the subsoil thereof, or mobile launchers of such missiles, which move only in contact with the ocean floor, the seabed, or the beds of internal waters and inland waters, or missiles for such launchers;

Agreed Statement to subparagraph (b). *The obligations provided for in subparagraph 1(b) of Article IX of the Treaty shall apply to all areas of the ocean floor and the seabed, including the seabed zone referred to in Articles I and II of the 1971 Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-bed and the Ocean Floor and in the Subsoil Thereof.*

(c) systems for placing into Earth orbit nuclear weapons or any other kind of weapons of mass destruction, including fractional orbital missiles;

Common Understanding to subparagraph (c). *The provisions of subparagraph 1(c) of Article IX of the Treaty do not require the dismantling or destruction of any existing launchers of either Party.*⁶²

While the Senate never ratified the SALT II treaty, the United States agreed to abide by its provisions so long as the Soviets did the same.

Moon Agreement

In 1979, the General Assembly opened for signature the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, commonly known as the Moon Agreement. Despite the name, the provisions of the agreement also applied to other celestial bodies in our solar system. It entered into force on July 11, 1984, but only for the signatory states. As of January 1, 2004, 10 states had ratified the agreement and another 5 had signed but not ratified it.⁶³ The United States never signed the agreement. Article 3 of the Moon Agreement contains the following text:

*States Parties shall not place in orbit around or other trajectory to or around the Moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction or place or use such weapons on or in the Moon.*⁶⁴

While the language differs, this is clearly consistent with the existing language of the Outer Space Treaty. There is no indication that this provision provoked any significant disagreement. Rather, the controversy surrounding the Moon Agreement relates to Article 11, which contains language concerning the “Common Heritage of Mankind” that raised concerns about the status of property rights. It is widely argued that the agreement has dubious international standing due to its lack of international acceptance.⁶⁵

Proposed WMD Treaty

In 1975, the Soviet Union asked the international community to consider negotiation of a treaty banning new types of WMD.⁶⁶ In response, the General Assembly

passed a resolution that year calling on the Conference of the Committee on Disarmament (CCD) to consider the "[p]rohibition of the development and manufacture of new weapons of mass destruction and new systems of such weapons."⁶⁷

The General Assembly discussed the matter in 1975 and 1976, and the CCD discussed a possible treaty during its 1976 session. During the negotiations, the Western powers argued against the Soviet treaty, even as they accepted the underlying principles it affirmed. They agreed on the principle of prohibiting new types of WMD, and accepted the Soviet position that the 1948 CCA definition covered more than the four explicitly declared types of WMD (nuclear, radiological, chemical, and biological). On the other hand, they argued that it was not evident that the international community could identify any new categories of weapons that qualified as WMD. In particular, the Western powers asserted that the categories of new WMD offered by the Soviets were too vague or did not qualify as WMD. Moreover, they contended that if a new type of WMD emerged, the international community should draft a treaty to ban that specific type of weapon. In conclusion, the Western powers held that the UN should not adopt a new treaty banning WMD, but should keep the matter under review.

The result of the deliberations was General Assembly Resolution 32/84, adopted December 12, 1977. This resolution reaffirmed UN adherence to the CCA definition of WMD. It also provided policy guidance that appears to have defined the subsequent agenda of the UN on WMD. Part A of the resolution, adopted at the insistence of the Soviets, contained two significant passages:

1. Requests the Conference of the Committee on Disarmament to continue negotiations, with the assistance of qualified governmental experts, aimed at working out the text of an agreement on the prohibition of the development and manufacture of new types of weapons of mass destruction and new systems of such weapons, and, when necessary, specific agreements on this subject.

...

3. Urges all States to refrain from any action which would impede international talks aimed at working out an agreement or agreements to prevent the use of scientific and technological progress for the development of new types of weapons of mass destruction and new systems of such weapons.

The text of part B was introduced by the United Kingdom and supported by the United States. It declares that the General Assembly:

1. Urges States to refrain from developing new weapons of mass destruction based on new scientific principles;

...

4. Welcomes the active continuation of negotiations relating to the prohibition and limitation of identified weapons of mass destruction;

5. Requests the Conference of the Committee on Disarmament, while taking into account its existing priorities, to keep under review the question of the development of new weapons of mass destruction based on new scientific principles and to consider the desirability of formulating agreements on the prohibition of any specific new weapons which may be identified.

While Part A merely discussed “new types” of WMD, Part B made clear that the “new” WMD originated from “new scientific principles.” This suggests that new types of WMD could not encompass types of weapons existing in 1948 but were not limited to CBRN if the new weapons types relied on technologies not known or possible in 1948.

Negotiators addressed the issue once again during the 1978 Tenth Special Session of the General Assembly, the so-called Special Session on Disarmament. The meeting’s Final Document laid out international priorities for the negotiation of disarmament agreements:

*Priorities in disarmament negotiations shall be: nuclear weapons; other weapons of mass destruction, including chemical weapons; conventional weapons, including any which may be deemed to be injurious or to have indiscriminate effects; and reduction of armed forces.*⁶⁸

Since that time, prohibition of new types of WMD has been on the UN's disarmament agenda, first at the CCD and then its successor entity, the Conference on Disarmament (CD).⁶⁹ While the CD has never identified any new types of WMD, the international community widely supports efforts to sustain the prohibition on existing and new types of WMD.⁷⁰

Other International Diplomacy

WMD has been a focus of discussion at both the Security Council and the General Assembly since 1946. A few developments since the end of the Cold War highlight this continuing use of the term *WMD* in UN deliberations. At the conclusion of the 1992 meeting of the Heads of State and Government of the member states of the UN Security Council, the president of the Security Council made the following statement with the authorization of the participants:

*The proliferation of all weapons of mass destruction constitutes a threat to international peace and security. The members of the Council commit themselves to working to prevent the spread of technology related to the research for or production of such weapons and to take appropriate action to that end.*⁷¹

In 2004, the Security Council further emphasized this point when it adopted Resolution 1540, which reaffirmed the 1992 declaration by the Security Council's president, "including the need for all Member States to fulfill their obligations in relation to arms control and disarmament and to prevent proliferation in all its aspects of all weapons of mass destruction." Significantly, this was the only mention of WMD in the resolution's text. The rest of the document refers to "nuclear, chemical, and biological weapons and their means of delivery."⁷²

A 1995 UN General Assembly Resolution mentioned WMD three times in connection with measures related to their control or abolition, including an affirmation that the General Assembly “calls upon all States to implement fully their commitments in the field of disarmament and non-proliferation of weapons of mass destruction.”⁷³ In 1996, the General Assembly adopted a resolution on the “[p]rohibition of the development and manufacture of new types of weapons of mass destruction and new systems of such weapons.” In that resolution, the General Assembly declared its adherence to the CCA definition and noted that it was

determined to prevent the emergence of new types of weapons of mass destruction that have characteristics comparable in destructive effect to those of weapons of mass destruction identified in the definition of weapons of mass destruction adopted by the United Nations in 1948.

Moreover, the resolution reiterated that the General Assembly “reaffirms that effective measures should be taken to prevent the emergence of new types of weapons of mass destruction.”⁷⁴

The United States is party to several other agreements with explicit or implicit WMD definitions. For example, the Missile Technology Control Regime guidelines contain the following language: “weapons of mass destruction (i.e. nuclear, chemical and biological weapons).”⁷⁵ Since 2004, the United States has negotiated 12 bilateral ship boarding agreements to support the objectives of the Proliferation Security Initiative.⁷⁶ The agreements ensure that the United States has the legal authority to search and seize ships belonging to the fleets of those countries should they be carrying WMD or related cargoes. The agreements contain identical language specifying, “‘Weapons of mass destruction (WMD)’ means nuclear, chemical, biological and radiological weapons.”⁷⁷

Other Uses of the Term *WMD*

Although the term WMD originated in the diplomatic world, other communities subsequently adopted the terminology for their own purposes. The

Soviet Union incorporated the term into its military doctrine during the 1950s; it remains in Russian military doctrine. In contrast, U.S. Government officials used it only in the context of arms control and disarmament discussions until the end of the Cold War. Only during the 1990s did it appear extensively in U.S. national security doctrine, criminal law, and political discourse.

Soviet and Russian Military Doctrine

The Soviet Union used WMD to define an element of its military doctrine, starting in the 1950s. Indeed, the association was so strong that many U.S. national security experts incorrectly believed that the term originated in the Soviet Union.⁷⁸ The Russian term for weapons of mass destruction (*Oruzhiye massovogo porazheniya*) is defined as “Weapons used to inflict heavy casualties. They include nuclear, chemical, and bacteriological agents.”⁷⁹ Unfortunately, there is no authoritative account of why the Soviets used the term, so it is difficult to understand either their rationale for its adoption or the role it played in their military doctrine. The answer may lie in an observation found in a 1978 National Intelligence Estimate on Soviet chemical warfare doctrine: “The Soviets categorize chemical weapons—as they do nuclear and biological weapons—as ‘weapons of mass destruction’ whose initial use must be authorized at the highest political level.”⁸⁰ This suggests that the Soviets identified WMD as weapons with special characteristics requiring political decisions prior to their operational employment. Whatever the case, the term was used by senior Soviet officials—civilian and military—starting in the 1950s, and continued in use through the collapse of the Soviet Union.⁸¹

The term retains a place in Russian military doctrine. The 1993 Russian Federation Military Doctrine contained a lengthy discussion of nuclear weapons and “other types of weapons of mass destruction”:

The Russian Federation’s policy regarding other types of weapons of mass destruction consists of:

- ◆ *promoting the full implementation of the Convention on the Prohibition of the Development, Production, Stockpiling, and*

Use of Chemical Weapons and on their destruction and the maximum expansion of the parties to it;

- ◆ *ensuring compliance with the regime of the Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on Their Destruction;*
- ◆ *preventing the creation of new types of weapons of mass destruction and the development, production, stockpiling, acquisition, storage, or proliferation of means, materials, and technologies which help create these weapons;*
- ◆ *maintaining readiness to counter effectively the consequences of the creation of new types of weapons of mass destruction and providing guarantees of the security of citizens, society, and state.*⁸²

This is consistent with the CCA definition, including nuclear, chemical, and biological weapons, as well as possible “new types” of WMD.

The Russian Federation Military Doctrine issued in April 2000 dropped the lengthy discussion of “other types” of WMD, but still uses the term five times. Its articulation of Russian nuclear doctrine includes the following use of the term:

*The Russian Federation reserves the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it and (or) its allies, as well as in response to large-scale aggression utilizing conventional weapons in situations critical to the national security of the Russian Federation.*⁸³

In February 2010, the Russian Federation issued an updated Military Doctrine. Although the new doctrine revised Russian retaliatory policy, it continued to treat WMD attacks as qualitatively different from conventional attacks:

*The Russian Federation reserves the right to utilize nuclear weapons in response to the utilization of nuclear and other types of weapons of mass destruction against it and (or) its allies, and also in the event of aggression against the Russian Federation involving the use of conventional weapons when the very existence of the state is under threat.*⁸⁴

Essentially, Russian doctrine specifies that any use of WMD could lead to a nuclear response, but that conventional attacks must threaten state survival to justify a nuclear response.

U.S. National Security Strategy

Eleven of the last 12 Presidents used the term *WMD* in a public speech at least once. Only President Gerald Ford never used the term in an official context. Presidents Bill Clinton and George W. Bush used the term far more often than other Presidents. Barack Obama appears to use the term about as often as George H.W. Bush.⁸⁵ In addition, the term has appeared in every Democratic Party platform since 1988 and in every Republican Party platform since 1992.⁸⁶

Use of WMD became more common in national security discourse after the end of the Cold War. This is evident in its growing use by successive Presidents and their national security staffs. In public documents and formerly classified documents, subsequently made available for public release, WMD refers to nuclear, biological, and chemical weapons. The sole exception is an addendum to a document issued by President George W. Bush.

The first sentence in National Security Directive 70, "United States Nonproliferation Policy," signed by President George H.W. Bush on July 10, 1992, asserted, "The spread of the capability to produce or acquire weapons of mass destruction and the means to deliver them constitutes a continuing threat to U.S. national security interests."⁸⁷ The term appears only twice in the Bush administration's 1990 *National Security Strategy*.⁸⁸ The last strategy document issued by that administration, the January 1993 *Defense Strategy for the 1990s: The Regional Defense Strategy*, used the term 10 times.⁸⁹

President Clinton was even more comfortable with the term, as evident from the frequent references to WMD in his speeches and official documents. WMD

appeared 31 times in the Clinton administration's 1998 *National Security Strategy* and 33 times in its 1999 revision.⁹⁰ Executive Order 12938, "Proliferation of Weapons of Mass Destruction," issued by President Clinton on November 12, 1994, continued the pattern of referring to WMD as NBC weapons:

I find that the proliferation of nuclear, biological, and chemical weapons ("weapons of mass destruction") and of the means of delivering such weapons, constitutes an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States, and hereby declare a national emergency to deal with that threat.

This Executive order remains in effect, renewed annually by Presidents Clinton, Bush, and Obama.⁹¹ Similar language appeared in one of the few declassified Presidential Decision Directives (PDDs) issued by President Clinton, PDD-39 on "U.S. Policy on Counterterrorism," which included a section that clearly equated WMD with NBC:

Weapons of Mass Destruction

The United States shall give the highest priority to developing effective capabilities to detect, prevent, defeat and manage the consequences of nuclear, biological or chemical (NBC) materials or weapons use by terrorists.

*The acquisition of weapons of mass destruction by a terrorist group is unacceptable.*⁹²

Other documents issued by President Clinton followed this pattern.⁹³ All told, WMD appeared in just over 500 speeches, press conferences, and other public statements. On average, President Clinton referred to WMD in about 63 public statements per year.

President George W. Bush followed this trend. There were 24 references to weapons of mass destruction in his administration’s 2002 *National Security Strategy* and 34 references in its March 2006 revision.⁹⁴ Although the 2002 *Combating WMD Strategy* never explicitly defined WMD, the document clearly means NBC when WMD is used:

*Weapons of mass destruction (WMD)—nuclear, biological, and chemical—in the possession of hostile states and terrorists represent one of the greatest security challenges facing the United States.*⁹⁵

President Bush used WMD even more often than his predecessor did. The term appeared in about 820 public documents issued by the George W. Bush White House, or just over 100 per year.⁹⁶

President Obama and his national security team were less enamored with the term than his two predecessors were. The Obama administration’s 2010 *National Security Strategy* used the term only six times.⁹⁷ The Obama White House issued only 39 public documents mentioning “weapons of mass destruction” during its first 2 years in office, or only about 20 per year.

Law Enforcement

In 1994, the U.S. Congress amended the criminal code to incorporate a definition for WMD. The Federal Death Penalty Act of 1994, enacted as part of the Violent Crime Control and Law Enforcement Act of 1994 (H.R. 3355, Pub. L. 103–322), allowed Federal courts to impose a death sentence for the commission of nearly 60 different crimes, including killing someone through use of a WMD.⁹⁸ In addition to CBRN, the act’s WMD definition (see appendix A, definition 4) added any “destructive devices as defined in section 921 of this title.” A review of that section indicates that destructive devices include bombs, grenades, mines, or any gun with a barrel larger than one-half inch.⁹⁹ As a result, Congress determined that a wide range of conventional armaments were WMD. Congress never debated this provision, and there is no explanatory legislative history. Nor has the law enforcement community advanced a rationale for it.

Federal prosecutors have relied extensively on this legislation, typically using it to prosecute cases involving “destructive devices” and not CBRN. Prosecutors indicted and convicted Timothy McVeigh and Terry Nichols for using a WMD in their April 19, 1995, bombing attack on the Alfred P. Murrah Federal Building in Oklahoma City. In that case, the WMD consisted of a 2- to 3-ton ammonium nitrate truck bomb.¹⁰⁰ Similarly, prosecutors indicted Zacarias Moussaoui for conspiring to use WMD, specifically “airplanes intended for use as missiles, bombs, and similar devices, and other weapons of mass destruction.”¹⁰¹ Richard Reid pled guilty to a charge of attempting to use a WMD—a shoe bomb—to destroy an aircraft.¹⁰² Other prosecutions have involved possession of pipe bombs and sawed-off shotguns.¹⁰³ Federal prosecutors also have indicted individuals under this provision who were accused of threatening to use chemical or biological agents, usually anthrax hoaxes.¹⁰⁴

After 1994, 21 states and the District of Columbia also adopted laws incorporating WMD definitions (see appendix D). The District and 10 states follow the Federal example and define WMD to include CBRNE, sometimes adopting the specific wording of Title 18 U.S.C. § 2332a. In contrast, eight states chose to limit WMD to CBRN weapons, thus excluding high explosive devices. Finally, three states adopted idiosyncratic definitions: Georgia limits WMD to radiation-producing weapons, Nevada includes any weapon capable of killing or causing harm to large numbers of people, and New Jersey considers WMD to include, but not be limited to, NBC weapons (not specifying what other weapons are meant).¹⁰⁵

U.S. Department of Defense

The Department of Defense first adopted an official WMD definition in January 1962. It appeared as a change to the 1961 edition of its *Dictionary of United States Army Terms*. The Army’s dictionary served a joint function, and, as noted in the dictionary’s February 1963 edition, the Department of Defense accepted the Army’s definition for joint usage. This new definition was as follows:

In arms control usage, weapons that are capable of a high order of destruction and/or of being used in such a manner as to destroy

*large numbers of people. Can be nuclear, chemical, biological, and radiological weapons, but excludes the means of transporting or propelling the weapon where such means is a separate and divisible part of the weapon.*¹⁰⁶

The DOD definition had several odd features. Although ostensibly applicable to "arms control usage," it is inconsistent with the CCA definition developed by the UN for use in disarmament and arms control negotiations. As will become clear, it also was not the definition used by the U.S. Government in such diplomacy. Some of the differences were striking. The Army definition emphasized destructiveness and lethality, but the UN definition makes no such stipulations. Nor did the Army definition require that WMD be CBRN weapons. It merely stated that WMD "can be" CBRN weapons, suggesting that WMD could include weapons other than CBRN and that not all CBRN weapons were WMD. In contrast, the UN definition included CBRN and only CBRN (except for future weapons with characteristics similar to CBRN). In other words, DOD appears to have written its definition with no reference to previous usage.

DOD almost certainly adopted this definition to support its favored position in interagency discussions regarding proposed bans on WMD in outer space. As discussed previously, the Kennedy administration supported such a ban, although the Defense Department had reservations. It appears that DOD wanted to reserve the option of using low yield nuclear weapons in space, and tried to convince the administration that such devices were not forms of WMD.

The DOD position was evident at the October 8, 1963, Committee of Principals, which was devoted to "Bombs in Orbit." At that meeting, the senior officials present discussed a proposed UN General Assembly resolution to prohibit WMD in outer space. The Joint Staff argued that the resolution should ban WMD and not mention nuclear weapons. The Joint Chiefs of Staff (JCS) had the support of the Office of the Secretary of Defense, represented by Paul Nitze, Assistant Secretary of Defense for International Security Affairs (the functional equivalent of the current Under Secretary of Defense for Policy). According to Raymond Garthoff, who was on the National Security Council staff at the time, "The reason the JCS

paper wished to use the former term was to allow later interpretation that small nuclear weapons, for example for anti-satellite or anti-ballistic missile use, were not ‘weapons of mass destruction.’”¹⁰⁷

The DOD position garnered little support. Secretary of State Dean Rusk noted that the “Joint Chiefs intention seemed to be to leave open the question of interpretation” of what constituted WMD, and the President’s science advisor made clear that he thought WMD meant nuclear weapons plus “BW–CW” (biological warfare/chemical warfare). When pressed by Secretary Rusk, Nitze indicated that Defense did not want a clear definition of WMD, apparently so that DOD could operate low yield nuclear weapons in space despite a WMD ban. This was unacceptable to the others, and the official conclusions of the meeting reported the following: “‘Weapons of mass destruction’ would have to be interpreted as including all nuclear weapons.”¹⁰⁸ Thus, the White House clearly and definitively rejected the DOD effort to define WMD for use in arms control diplomacy in a way that potentially excluded low yield nuclear weapons.

This issue arose again in 1969, at a time when the Nixon administration was negotiating the Seabed Treaty. As already discussed, an interagency review document prepared by a group led by the Arms Control and Disarmament Agency treated the DOD definition as an agreed-upon U.S. Government definition. However, when the National Security Council ultimately had to evaluate options for the treaty, it ignored the DOD definition and implicitly adopted the CCA definition by making a stark differentiation between “conventional weapons” and WMD. During ratification hearings, the treaty negotiator offered a WMD definition clearly based on the CCA definition. In other words, contrary to DOD’s assertion that its definition derived from arms control usage, once again the U.S. Government rejected it for that purpose. Nonetheless, DOD retained its definition, including the false assertion about its use in arms control, and did not modify it for more than a quarter of a century.

DOD finally significantly revised its definition in 1998. At that time, the offices within the Joint Staff responsible for counterterrorism wanted to align DOD with the domestic law enforcement community on WMD issues. As discussed in the last section, the U.S. Congress amended the criminal code in 1994 to define

WMD as CBRNE weapons, which included certain explosive devices and small arms. Thus, the new definition included "high explosives" among the weapons that "can be" WMD:

*Weapons that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people. Weapons of mass destruction can be high explosives or nuclear, biological, chemical, and radiological weapons, but exclude the means of transporting or propelling the weapon where such means is a separable and divisible part of the weapon.*¹⁰⁹

There is no evidence that those responsible for revising the definition considered the broader implications of these changes or were even aware that the term had legal significance in the context of DOD's treaty obligations.

In 2004, the JCS attempted to reconceptualize WMD in the *National Military Strategy* issued that year.¹¹⁰ That document contains the following reference to the *National Security Strategy* issued by the Bush administration in 2002:

*The NSS [National Security Strategy] directs an active strategy to counter transnational terrorist networks, rogue nations and aggressive states that possess or are working to gain weapons of mass destruction or effect (WMD/E).*¹¹¹

A footnote at the end of the previous quotation defines WMD/E:

The term WMD/E relates to a broad range of adversary capabilities that pose potentially devastating impacts. WMD/E includes chemical, biological, radiological, nuclear, and enhanced high explosive weapons as well as other, more asymmetrical "weapons." They may rely more on disruptive impact than destructive kinetic effects. For example, cyber attacks on U.S. commercial information systems or attacks against transportation networks may have

*a greater economic or psychological effect than a relatively small release of a lethal agent.*¹¹²

Whatever the merits of WMD/E as a concept, there is no reason to associate it with the 2002 *National Security Strategy*. The term “weapons of mass destruction” appears 13 times in the text of the September 2002 *National Security Strategy*, including 8 times in a chapter devoted specifically to the threat of WMD. The only association of the word “effects” with WMD occurs in the phrase “effects of weapons of mass destruction use,” which appears three times in a paragraph discussing consequence management. While the *National Security Strategy* never explicitly defines WMD, the chapter on combating WMD focuses exclusively on nuclear, biological, and chemical weapons and their associated delivery systems. In any case, even in DOD this usage was idiosyncratic. It does not appear in the 2011 *National Military Strategy*.¹¹³

As noted in the introduction, the Secretary of Defense decision in early 2005 to assign combating WMD to USSTRATCOM forced DOD to reassess the definition. The initial result appeared in an August 2005 memorandum establishing the USSTRATCOM Center for Combating Weapons of Mass Destruction:

*The term “WMD” is defined as weapons—nuclear, biological, chemical and radiological—and their means of delivery that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people or cause significant infrastructure damage.*¹¹⁴

Although based on the 1961 DOD definition, by incorporating the mention of a weapon’s destructiveness, it diverged by explicitly limiting WMD to CBRN weapons. It ignores high explosives and adds a reference to infrastructure damage. By limiting WMD only to those weapons that “destroy large numbers of people or cause significant infrastructure damage,” it appears that the USSTRATCOM definition excludes small-scale uses of chemical

and biological agents that are of concern to other agencies. Hence, the definition apparently excludes the use of ricin or improvised chemical devices, types of threats associated with al Qaeda-affiliated groups. It is unclear if the USSTRATCOM definition covers highly disruptive attacks that cause few fatalities, such as the 2001 anthrax letter attack.

The USSTRATCOM definition was the basis for the current DOD definition of WMD. It is limited to CBRN, but includes the proviso that the weapons either cause considerable physical damage or harm large numbers of people:

*Chemical, biological, radiological, or nuclear weapons capable of a high order of destruction or causing mass casualties and exclude the means of transporting or propelling the weapon where such means is a separable and divisible part from the weapon.*¹¹⁵

This definition thus includes a subset of CBRN weapons, those that meet the criteria for destructiveness, but it excludes other types of weapons that are capable of causing similar levels of death or destruction.

The Alternative Definitions

Research for this paper identified more than 50 WMD definitions issued by a government or international organization. The compilation is not comprehensive, although it incorporates the most significant alternatives from the perspective of U.S. Government policy. The U.S. Code contains 5 definitions, and U.S. Government agencies have developed at least 14 alternatives since the 1960s. In addition, 21 U.S. states and the District of Columbia have adopted definitions, as have a number of other countries and international agencies. These definitions appear in appendix A (used in the U.S. executive branch), appendix B (enacted into U.S. Federal law), appendix C (versions used internationally), and appendix D (enacted into U.S. state laws).

These definitions generally fit into one of six alternative categories, allowing for some slight variations in meaning:

- ◆ WMD as nuclear, biological, and chemical (NBC) weapons¹¹⁶
- ◆ WMD as chemical, biological, radiological, or nuclear (CBRN) weapons¹¹⁷
- ◆ WMD as CBRN and high explosive (CBRNE) weapons¹¹⁸
- ◆ WMD as CBRN weapons that cause massive destruction or kill large numbers of people¹¹⁹
- ◆ WMD as weapons that cause massive destruction or kill large numbers of people, and do not necessarily include or exclude CBRN weapons¹²⁰
- ◆ WMD as weapons of mass destruction or effect, potentially including CBRNE weapons and other means of causing massive disruption, such as cyber-attacks.¹²¹

A few definitions do not clearly fit into these categories, such as the U.S. state law that limits WMD only to nuclear and radiological devices or those that take notice of delivery systems.¹²²

None of these definitions is perfect. All suffer from flaws, either conceptual or in the practical impact of their use to guide policy. The following discussion starts with a review of the concepts of “mass destruction” and “mass casualties,” which are at the heart of some WMD definitions, and concludes with an assessment of the utility of the six alternative definitions.

Defining Mass Destruction

Only a few WMD definitions make explicit reference to a requirement that the weapons in question cause mass destruction. Indeed, the first definition to insist on this criterion appeared only in 1961, when the U.S. Department of the Army incorporated it into the official DOD definition. It is a requirement that remains primarily identified with DOD definitions. Only seven of the WMD definitions focus on capabilities to inflict physical destruction. Such definitions mention weapons “capable of a high order of destruction,”¹²³ that can cause “significant damage to property,”¹²⁴ or “significant damage to infrastructure.”¹²⁵ Most of these definitions (five of the seven) originated in DOD, all ultimately based on the original 1961 Department of the Army definition. The only exceptions are

a North Atlantic Treaty Organization (NATO) definition, clearly adapted from similar DOD definitions, and a definition found in the first interagency terrorism response plan developed prior to September 11, 2001, by the Federal Emergency Management Agency (FEMA). The FEMA definition disappeared after the agency became part of the Department of Homeland Security (DHS).

Despite DOD's persistent reliance on definitions including destructiveness criteria, it has never explained what it means by mass destruction. Conventional weapons clearly can cause a "high order of destruction," "significant damage to property," or "significant damage to infrastructure." Hence, it is unclear what separates the damage inflicted on Hamburg, Tokyo, or Manila during World War II from the destructiveness of nuclear weapons at Hiroshima and Nagasaki. For example, on the night of March 9, 1945, U.S. Army Air Force B-29s destroyed 15 square miles of Tokyo.¹²⁶ By comparison, the two atomic bombs destroyed an estimated 6 square miles.¹²⁷ Producing a comparable level of destructiveness with conventional weapons, according to the calculations of the U.S. Strategic Bombing Survey, would have required 345 B-29s carrying 3,300 tons of bombs.¹²⁸ However, the DOD definitions do not distinguish between an effect created by a single device or a thousand tons of ordnance.

Nor do the DOD definitions offer criteria for distinguishing between the effects generated in a single instant and those created over time. The U.S. Army siege of Manila, lasting about a month (roughly February 3 through March 3, 1945), is an example of how sustained use of conventional munitions can destroy a city. At the time, Manila covered 14.5 square miles and had a population of 800,000. The Greater Manila area was 100 square miles with 1,100,000 people.¹²⁹ The U.S. Army's official historian offered the following assessment:

The cost of the battle for Manila cannot be measured in military terms alone. The city was a shambles after the battle was over—much of it destroyed, damaged beyond repair, or reparable only at great expense in time and money. The public transportation system no longer existed; the water supply and sewage systems needed extensive repairs;

the electric power facilities did not function; most of the streets needed repaving; 39 of 100 or more large and small bridges had been destroyed, including the 6 over the Pasig River.

The University of the Philippines and the Philippine General Hospital were largely irreparable. Lower class residential districts north of the Pasig and upper class apartments south of the river had been destroyed; the Philippine Commonwealth's government's center had been wiped out; the 400-year-old landmark of Intramuros had been nearly razed; severe damage had been inflicted on the economically important installations in the North and South Port Areas; the industrialized Paco and Pandacan Districts had been badly battered. Many buildings still standing would ultimately have to be torn down as unsafe for occupancy. Millions upon millions of dollars' worth of damage had been done and, as a final shocking note of tragedy, an estimated 100,000 Filipino civilians had lost their lives during the battle.

In brief, Manila's economic, political, and social life would have to start over almost from scratch.¹³⁰

The U.S. Army caused this level of destruction using artillery, armor, and small arms. While it is unclear what percentage of the total area of central Manila the fighting destroyed, the ultimate impact was similar to the firebombing of Tokyo and the use of atomic weapons.

There is no reason to doubt that the Vannevar Bush and the CCA definition drafters understood that conventional weapons could cause massive destruction. Clearly, they did not believe that destructiveness was a central defining characteristic of WMD. Having witnessed the terrible destruction wrought by high explosive and incendiary weapons during World War II, Bush clearly understood that nuclear weapons were not necessary to inflict mass destruction. The CCA negotiators also would have had similar appreciation of the destructive effects

of conventional armaments. The men who created and adopted WMD as a term of art clearly wanted terminology that differentiated certain categories of weapons from conventional weaponry—nuclear and biological in the case of Bush and CBRN in the case of the CCA negotiators.

Defining Mass Casualties

Twelve of the 52 WMD definitions identified while researching this monograph mention mass casualties. Variant language found in U.S. Government definitions includes “cause death or serious bodily injury to a significant number of people,”¹³¹ “destroy large numbers of people,”¹³² “kill large numbers of people,”¹³³ “causing mass casualties,”¹³⁴ or “to cause a mass casualty incident” or “death or serious bodily injury to a significant number of persons.”¹³⁵ NATO is the only non-U.S. official entity to incorporate such language (to “destroy people . . . on a large scale”).¹³⁶ At least three U.S. states include similar language in their statutory definitions of WMD.¹³⁷

Understanding the import of these definitions requires some determination of what constitutes a mass casualty event. Unfortunately, there is no consensus on the meaning of “mass casualties.” The U.S. General Accounting Office (GAO) identified this problem as far back as 1999, when it noted, “No federal agency has defined what constitutes mass casualties.” Only one agency had any criteria—the Department of Health and Human Services considered 1,000 casualties the threshold for a “mass casualty” event. However, it had no analytically based rationale for its criterion. Some agencies treated attacks that overwhelmed local response capacity as “mass casualty” attacks, making the definition situationally dependent, given that a small town had less capacity than a large metropolitan area.¹³⁸ A 1999 report by the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction reiterated the GAO finding.¹³⁹

The problem remains, evident in the official DOD definition for “mass casualties”:

Any large number of casualties produced in a relatively short period of time, usually as the result of a single incident such as a military

*aircraft accident, hurricane, flood, earthquake, or armed attack that exceeds local logistic support capabilities.*¹⁴⁰

The definition is situationally dependent because what one locale might be able to address could overwhelm another community. Indeed, it is arguable that the 9/11 attack on New York City did not meet the criteria because New York City did not necessarily require supplements to its local logistical support capabilities. The “single incident” criterion also can be problematic. Clearly, the atomic bombing of Hiroshima was a single incident. However, does the month-long siege of Manila in 1945 qualify as a single incident? What does DOD mean by “a relatively short period of time”? How about the 13-week slaughter in Rwanda, which resulted in far more deaths than all uses of WMD in the 20th century?

Similarly, DHS has a definition for “catastrophic incident” for the National Incident Management System:

*Any natural or manmade incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, and/or government functions.*¹⁴¹

However, DHS does not define “extraordinary levels of mass casualties, damage, or disruption.” As a result, determining that an event exceeds the threshold for a catastrophic incident also is situationally dependent, presumably based on political or policy judgments.¹⁴²

Academics studying terrorism also have tried to define mass casualties. In 1978, terrorism scholar Brian Jenkins suggested that “100 or more potential deaths” qualified as mass murder.¹⁴³ This reflected his recognition that few terrorism attacks caused more than 100 fatalities.¹⁴⁴ Other terrorism experts accepted Jenkins’s 100 deaths threshold for identifying incidents of “mass casualty terrorism.”¹⁴⁵ However, because few terrorism attacks caused as many as 50 deaths, at least one terrorism analyst argued that as few as 25 deaths qualified a terrorist attack as a mass casualty incident.¹⁴⁶

These terrorism analyses, however, drew on pre-9/11 figures, and the criteria they developed may be inappropriate given the growing deadliness of conventional terrorism. National Counterterrorism Center data suggest that there were 270 terrorist incidents during the 4-year period from 2005 through 2008, resulting in 25 or more deaths, or an average of about 5.6 such incidents every month. Of these, 24 involved more than 100 fatalities (0.5 per month) and 1 had more than 250 fatalities. None resulted in more than 500 deaths.¹⁴⁷ As this suggests, it is clearly possible to use explosives and relatively low technology weapons to kill 100 or more people.¹⁴⁸

While the thresholds adopted by terrorism experts are reasonable in their context, they provide little useful guidance in the context of conventional military conflicts. It is doubtful that many military analysts would agree that attacks involving only 100, or even 500, fatalities are "mass casualty" events. Indeed, most students of conflict would treat wars resulting in 1,000 fatalities as small wars. Some would not even count conflicts resulting in fewer deaths.¹⁴⁹

Clearly, conventional armaments used in sufficient quantity by organized military forces can cause mass casualties, creating effects similar to those caused by nuclear weapons. According to one estimate, 231 million people died in wars and armed conflicts during the 20th century, including 41 million from 1945 to 2000.¹⁵⁰ Few of these deaths resulted from CBRN weapons. Military use of WMD probably accounted for only about 0.1 percent of the war deaths during the 20th century (no more than about 300,000 people), and an even smaller percentage of war deaths since 1945 (perhaps 10,000, or only 0.025 percent).¹⁵¹ To put these losses into context, an estimated 50,000 people died during the firebombing of Hamburg in July and August of 1943,¹⁵² an estimated 84,000 people died during the March 9–10, 1945, firebombing of Tokyo,¹⁵³ and approximately 100,000 Filipinos died during the 1945 siege of Manila.¹⁵⁴ Indeed, Dr. Vannevar Bush, the man responsible for modern adoption of the term WMD, found the firebombing of Tokyo even more horrific than the atomic bomb attacks. Having had responsibility both for the development of the atomic bomb and of napalm, he reportedly regretted the use of napalm against cities more than the atomic attacks:

*“For years after the war Van Bush would wake screaming in the night because he burned Tokyo,” remembered his friend, the physicist Merle Tuve. “Even the atomic bomb didn’t bother him as much as jellied gasoline [napalm].”*¹⁵⁵

Indeed, it is clear that weapons generally not considered WMD, such as small arms and landmines, can cause major casualties.¹⁵⁶ The genocide in Rwanda clearly demonstrated the potential lethality of small arms and primitive weapons. More than 800,000 people died in only 13 weeks, or around 8,000 people a day, many through use of weapons no more advanced than machetes.¹⁵⁷ The State Department estimated in the early 1990s that landmines killed 150 people a week (7,500 per year), while the American Red Cross put the figure at 800 a week (41,600 per year).¹⁵⁸ In 2001, the World Health Organization estimated that small arms killed several hundred thousand people every year, including homicides, suicides, and war-related deaths.¹⁵⁹ Thus, in some years the annual deaths from small arms might exceed the total deaths from NBC weapons during the entire 20th century.

The U.S. Air Force supported the only attempt to develop an objective measure of mass destruction that this author has located. Called the Mass Destruction Index (MDI), it focused on the physical concentration of casualties using a formula that divided the number of casualties by the size of the target area.¹⁶⁰ Using this metric, the authors generated the following results:

- ◆ 2^d Ypres, 1915 (chemical): 1.25
- ◆ Japanese biological attacks in China, 1938–1945: 18
- ◆ Hiroshima, 1945 (nuclear): 34
- ◆ Nagasaki, 1945 (nuclear): 44

The problems with this index became evident when its developers added non-NBC events into the mix:

- ◆ Texas Tower, 1966 (sniper): 0.36
- ◆ 2^d Ypres, 1915 (chemical): 1.25
- ◆ Japanese biological attacks in China, 1938–1945: 18
- ◆ Dresden, 1945 (firebombing): 28
- ◆ Hiroshima, 1945 (nuclear): 34
- ◆ Nagasaki, 1945 (nuclear): 44
- ◆ Dolphin Club (Tel Aviv), 2001 (suicide bomb): 47
- ◆ Tokyo, 1945 (firebombing): 63
- ◆ World Trade Center, 2001 (aircraft): 113
- ◆ Auschwitz Complex, 1942–1945: 1,000+

The advantage of this approach is that it emphasized the extent to which weapons other than NBC systems could inflict mass casualties. The problem, however, as the team that developed the MDI noted, was that “any model that equates the Dolphin Club, Hiroshima and Nagasaki assaults common sense and sensibility.”¹⁶¹ Thus, while the creators of the MDI saw some merit in it, they recognized that it was a problematic measurement. As they noted, it also failed to account adequately for the implications of time. Do we really equate events that unfold in slow motion over years with those that essentially occur in a few minutes? Moreover, is it really a mass destruction index, rather than a mass casualty index? Nonetheless, this author could find no other similar efforts to measure mass destruction objectively.

Assessing Alternative Definitions

There are six main alternative ways of defining WMD. Four of the definitions always include NBC weapons, although in one case not all NBC weapons are necessarily included. Of these four definitions, two focus exclusively on CBRN type weapons, while one also includes high explosive weapons. A fifth definition can include CBRN weapons, but focuses mainly on the destructiveness of the weapons and not on their type. Finally, a sixth definition incorporates weapons causing mass disruption as well.

WMD as NBC

Background. The U.S. Government has long referred to WMD as including nuclear, biological, and chemical weapons. It is the earliest definition for WMD in a U.S. law (see appendix B, definition 1).

Discussion. This is the definition used in almost all key guidance documents issued by the National Security Council and is consistent with almost all past White House usage, irrespective of who was President. NBC weapons have been the focus of intense international disarmament negotiations, resulting in the 1925 Geneva Protocol, the 1969 Nuclear Nonproliferation Treaty, the 1972 Biological and Toxin Weapons Convention, and the 1993 Chemical Weapons Convention. As such, NBC weapons represent a group of weapons that the international community finds particularly abhorrent. This distinguishes them from other weapons, such as conventional munitions, that could cause massive death and destruction but that the international community traditionally accepted as routinely usable instruments of armed conflict.

Nevertheless, there are significant conceptual problems with this definition. Not all chemical and biological weapons cause mass effects. Chemical and biological weapons can be highly discriminate, as evidenced by their use as tools of assassination. Moreover, biological and chemical agents generally do not cause destruction as usually defined, even if they may cause mass mortality. Moreover, NBC weapons are not the only types of weaponry that can inflict mass destruction.

There are two major policy objections to this definition. It varies slightly from the one adopted for international disarmament negotiations, neglecting any explicit mention of radiological weapons. It also is inconsistent with the one used by the homeland security and law enforcement communities, which invariably include high explosives.

Perspective. This definition has saliency because it is used by the White House in a series of key policy documents, especially the 2002 *National Strategy for Combating Weapons of Mass Destruction*. Consistency within the U.S. Government would seem to require alignment with Presidential guidance.

WMD as CBRN

Background. This definition is the closest to the meaning used by the international community for international disarmament negotiations, as defined by the

United Nations CCA disarmament commission in 1948.¹⁶² The United States accepted a version of this definition when it negotiated international treaties that placed restrictions specifically on "weapons of mass destruction."

In the view of some officials, however, this is only an extension or a variant of the first definition. Thus, some officials involved in drafting the White House's 2002 *National Strategy for Combating WMD* believed that their reference to WMD included radiological weapons as a subset of nuclear weapons, despite the lack of explicit reference to radiological devices in the document.¹⁶³ From this perspective, the mention of nuclear weapons in the first definition (NBC) was shorthand for both nuclear and radiological weapons, making NBC and CBRN synonymous.

Discussion. This definition makes explicit the inclusion of radiological weapons. As such, it provides the closest fit to the 1948 definition offered by the UN's Committee on Conventional Armaments and subsequently adopted by the UN General Assembly as the internationally recognized definition. This also suggests that because it is sufficiently close to the first definition it could serve as a synonym for NBC, and is therefore consistent with national guidance.

The criticisms identified with the first definition—equating WMD with NBC weapons—apply here. This definition is inconsistent with the one used by U.S. law enforcement and homeland security agencies, and it retains the conceptual weaknesses of the first definition. As an added negative, some people would argue strongly that radiological weapons are not capable of mass destruction. Significantly, the international community has never negotiated a treaty prohibiting radiological weapons despite the inclusion of such systems in the UN definition of WMD.

Perspective. This definition is generally consistent with the meaning used in disarmament negotiation. If treated as a variant of the first definition, it would be consistent with the 2002 *National Strategy for Combating WMD*.

WMD as CBRNE

Background. Certain U.S. Government agencies, especially U.S. Federal law enforcement officials and some homeland security organizations, define WMD to include certain explosive devices in addition to CBRN weapons.

Discussion. This definition is in the U.S. Criminal Code and in the laws of at least nine U.S. states and the District of Columbia. In addition, Federal agencies with homeland security responsibilities sometimes rely on this definition. This is perhaps understandable, given the leading role assigned to the law enforcement community in terrorism response until the creation of the Department of Homeland Security.¹⁶⁴ DHS adopted a version of this definition for its December 2004 *National Response Plan*.¹⁶⁵ The law enforcement community has never provided a rationale for defining WMD as CBRNE.

This definition addresses some of the concerns of critics who contend that the most destructive and deadly weapons have been conventional, but at the expense of including weapons with limited impact. It is inconsistent with most national guidance and with the usage preferred by the State Department and the international community. In addition to incorporating chemical, biological, and radiological weapons that could be used in ways that do not cause mass destruction, this definition also includes a fifth category of weapons, high explosives. As used by the U.S. law enforcement community, this definition treats virtually every weapon used by modern military forces as WMD—hand grenades, antitank and antipersonnel mines, the Bradley infantry fighting vehicle, and the M1 Abrams battle tank. Similarly, essentially every weapon carried by combat aircraft (bombs, missiles, guns) fits the definition, as do those mounted on most naval combatants (whether missiles or guns). Given the international consensus favoring prohibition or control of WMD, widespread adoption of this definition would imply support for international disarmament negotiations eliminating or controlling conventional military armaments.

Perspective. This definition merits consideration only because it is enshrined in U.S. law. Adoption of this definition in disarmament negotiations, or for application to existing treaties, could result in controls on conventional armaments that the U.S. military may not want to have limited by international agreements, such as antisatellite weapons or naval mines. It has no utility for military organizations because the definition treats most weapons as WMD. Almost all of the crimes prosecuted under WMD provisions of the U.S. Criminal Code could be prosecutable under other provisions. In the absence of any real justification for equating CBRNE with WMD, and given the

contradictions between the WMD definitions in the U.S. Criminal Code and those used in international law, there is no evident rationale for this idiosyncratic definition.

WMD as CBRN Weapons Causing Mass Destruction

Background. This definition limits WMD to CBRN weapons capable of causing either widespread material destruction or mass casualties. Its use is limited primarily to DOD, which adopted it in 2009.

Discussion. This particular definition appears to address some of the conceptual weaknesses of the first three definitions by requiring that the weapons achieve a certain level of destructiveness. This ensures that all WMD must have the capability to cause mass destruction.

Yet the definition poses other problems. It was adapted from the one used by DOD between 1961 and 1998, which appears to have been crafted to exclude low yield nuclear weapons from the definition of WMD. DOD has never clarified the definition's two key operative phrases: "high order of destruction" or "destroy large numbers of people." Both imply that a weapon's effects must achieve a certain threshold to qualify as WMD without specifying what those thresholds might be. What really constitutes a "high order of destruction"? Presumably, a 1-megaton thermonuclear warhead would qualify, but how about a 1-kiloton fission device? Does it imply that DOD believes antisatellite weapons with a low yield nuclear warhead would not violate the Outer Space Treaty, or that the Seabed Treaty permits low yield nuclear naval mines? Both are possibilities given this definition's ambiguities.

Similarly, the definition provides that WMD must "destroy" people, an odd formulation implying physical destruction in addition to morbidity and mortality. It also seems to imply exclusion of CB weapons that only incapacitate, a formulation inconsistent with U.S. obligations under the provisions of the biological and chemical weapons conventions.

Perspective. This definition has the singular virtue of focusing on the apparent plain language meaning of the term "weapons of mass destruction." It permits intellectually rigorous distinctions with types of weapons that only sometimes cause mass mortality (such as chemical and biological weapons). Nevertheless,

it is inconsistent with U.S. treaty obligations that restrict DOD employment of WMD (primarily the Outer Space and Seabed treaties). It also implies U.S. acceptance of non-lethal forms of CB weaponry, even those prohibited by treaty. Because it is vague regarding thresholds, operationalizing this definition would be difficult.

WMD as Weapons Causing Mass Destruction

Background. This definition focuses not on specific types of weapons, but rather on the magnitude of the impact. While the first four definitions specify the types of weapons that are WMD (NBC or CBRN or CBRNE), such weapons may or may not be WMD according to this definition.

Discussion. This definition first appeared when DOD adopted it as its official WMD definition in 1961.¹⁶⁶ The Central Intelligence Agency for some reason also adopted it for its investigation of the Iraqi WMD programs following Operation *Iraqi Freedom*.¹⁶⁷ Those who advocate expanding the definition of WMD to include small arms and other conventional weaponry appear to advocate using a definition of this type.¹⁶⁸

This definition is inconsistent with those used in national strategy documents and by the international community. Moreover, it may complicate response to the proliferation of NBC weapons by suggesting that as a practical matter the United States would be willing to tolerate possession of limited stockpiles of some CBRN weapons and would not respond if they were used, so long as the employment did not cross some threshold. In contrast, the United States currently operates on the assumption that the presence of any chemical or biological weapons constitutes a violation of the CWC or BWC, excepting only declared legacy chemical agents slated for destruction and those used under a specific law enforcement exemption. This makes it harder for proliferating countries to break out from their treaty obligations.

As such, relying on this definition would raise significant verification issues. Do we have sufficient confidence in our intelligence to be sure of the size of an adversary's CBRN arsenal? If we found a single device, would we be confident that others did not exist? Moreover, this definition implies that we would ignore activities

that lead to minimal capabilities, but that we would seek to interdict or otherwise respond to activities that lead to CBRN activities consistent with mass destruction capabilities. Operationalizing such an approach would be extremely difficult.

Perspective. This is the most intellectually pure definition, but also potentially the hardest to operationalize. It is inconsistent with national guidance, the practice of disarmament negotiations, and the U.S. Criminal Code.

WMD as Weapons of Mass Destruction or Effect

Background. This definition includes weapons that cause substantial disruption as well as those causing mass death and destruction. The sole instance of its official use is the 2004 *National Military Strategy of the United States of America*, issued by the Joint Chiefs of Staff.

Discussion. This is an idiosyncratic definition crafted to address some of the deficiencies with other definitions, especially those arising from terrorism concerns. It focuses on disruptive effects as well as death and destruction. This approach is particularly useful in the context of understanding the full range of terrorist threats, which can have devastating effects even if using weapons not traditionally defined as WMD.

The WMD/E formulation was unique to the Joint Staff, but failed to gain traction even within DOD. The Joint Staff never made clear its rationale for adopting this new term. It is unclear whether WMD/E includes *all* NBC weapons or only those capable of causing mass disruption. The breadth of the concept, and its dissimilarity to the use of WMD in strategy documents issued by the White House, suggests that it is not well suited for use in supporting Presidential guidance.

Perspective. This revision of the traditional concept of WMD did not address the issues that led the international community to focus on CBRN weapons as armaments of special concern. In addition, it may be the hardest to operationalize from a combatant commander's perspective. The types of adversary capabilities associated with this definition are wide ranging, suggesting that it may be hard to determine with particularity exactly what activities are associated with a mission combating WMD/E.

Concluding Remarks

The national security community invented the term “weapons of mass destruction” to fill a perceived terminological need as part of the post–World War II disarmament agenda. As a diplomatic term of art, it quickly gained salience first in disarmament negotiations and then in treaty law. In those contexts, WMD acquired a clear definition accepted both by the U.S. Government and by the international community. This is the definition crafted in 1948 by the UN, which considers WMD as CBRN weapons, as well as any potential weapons producing similar effects.

Over time, WMD has acquired additional meanings. Some of these alternative meanings resulted from application of the term to contexts outside of diplomacy, like when the Soviet Union integrated it into its military doctrine. In other cases, such as the 1961 DOD definition, government officials created alternative definitions to shape bureaucratic agendas. Such definitions, however, are now less significant than the relatively recent inclusion of high explosive weapons as forms of WMD. This formulation, which first appeared in the Violent Crime Control and Law Enforcement Act of 1994, turns the original meaning of WMD on its head. Although the original definition of the term explicitly excluded high explosive weapons, the U.S. Congress created a completely new definition that fundamentally altered the term’s meaning. In the absence of legislative history, it is only possible to speculate on the rationale for the new definition.

The confusion resulting from the adoption of inconsistent definitions creates problems with use of the term. Ideally, those who use the term should rely on the original, canonical definition developed by the UN and now enshrined in international law. It is unlikely that the U.S. Congress or the law enforcement and defense communities will follow such a path. For that reason, it is essential that the specific meaning intended is evident whenever the term is used.

Appendix A. Executive Branch Definitions of WMD

	Source	Definition
1	President George W. Bush, <i>National Strategy to Combat Weapons of Mass Destruction</i> , December 2002.	nuclear, chemical, and biological weapons
2	President Bill Clinton, Executive Order 12938, "Proliferation of Weapons of Mass Destruction," November 14, 1994.	nuclear, biological, and chemical weapons ("weapons of mass destruction")
3	Joint Staff, Joint Publication 1-02, <i>DOD Dictionary of Military and Associated Terms</i> (as amended through March 23, 2004). The definition used through at least 1998 in this publication is identical to the one appearing in A-7 below.	Weapons that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people. Weapons of mass destruction can be high explosives or nuclear, biological, chemical, and radiological weapons, but exclude the means of transporting or propelling the weapon where such means is a separable and divisible part of the weapon. Also called WMD.
4	Office of the Secretary of Defense, <i>Proliferation: Threat and Response</i> , January 2001; available at < www.fas.org/irp/threat/prolif00.pdf >.	weapons of mass destruction—including nuclear, biological, and chemical weapons and missiles
5	Office of the Secretary of Defense, <i>Proliferation: Threat and Response</i> , 1997.	nuclear, biological, or chemical weapons and their delivery means, often referred to as weapons of mass destruction
6	Department of Homeland Security, <i>National Response Plan</i> , December 2004.	As defined in Title 18, U.S.C. § 2332a: (1) any explosive, incendiary, or poison gas, bomb, grenade, rocket having a propellant charge of more than 4 ounces, or missile having an explosive or incendiary charge of more than one-quarter ounce, or mine or similar device; (2) any weapon that is designed or intended to cause death or serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals or their precursors; (3) any weapon involving a disease organism; or (4) any weapon that is designed to release radiation.

Appendix A, cont.

	Source	Definition
7	<p>Department of Army, <i>Dictionary of United States Army Terms</i>, AR 320–5, October 1967. This definition appears in versions of Joint Publication 1–02, <i>DOD Dictionary of Military and Associated Terms</i>, from at least the edition of September 3, 1974, through the edition of June 10, 1998.</p>	<p>In arms control usage, weapons that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people. Can be nuclear, chemical, biological, and radiological weapons, but excludes the means of transporting or propelling the weapon where such means is a separate and divisible part of the weapon.</p>
8	<p>Chairman, Joint Chiefs of Staff, <i>National Military Strategy</i>, 2004.</p>	<p>The term WMD/E relates to a broad range of adversary capabilities that pose potentially devastating impacts. WMD/E includes chemical, biological, radiological, nuclear, and enhanced high explosive weapons as well as other, more asymmetrical “weapons.” They may rely more on disruptive impact than destructive kinetic effects. For example, cyber attacks on U.S. commercial information systems or attacks against transportation networks may have a greater economic or psychological effect than a relatively small release of a lethal agent.</p>
9	<p>Central Intelligence Agency, Comprehensive Report of the Special Advisor to the DCI on Iraq’s WMD (Duelfer Report), September 30, 2004.</p>	<p>Weapons that are capable of a high order of destruction and/or being used in such a manner as to kill large numbers of people. Can be nuclear, chemical, biological, or radiological weapons but excludes the means of transporting or propelling the weapons where such means is a separable and divisible part of the weapon. Chemical Weapons and Biological Weapons need to be of a certain size to count as WMD—single chemical or biological artillery rounds would not be considered to be WMD, due to the limited damage they could produce.</p>

Appendix A, cont.

	Source	Definition
10	<p>Ambassador James Leonard, Assistant Director, Arms Control and Disarmament Agency, Seabed Arms Control Treaty, Hearings before the Committee on Foreign Relations, 92^d Cong., 2^d sess., on EX. H.92-1, Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof, January 27, 1972 (Washington, DC: Government Printing Office, 1972), 13.</p>	<p>“The term ‘weapons of mass destruction’ is one that has come into quite a number of international documents, treaties and so on, and it has, I think, generally the meaning of embracing nuclear weapons, embracing also chemical and biological weapons, and then being open-ended, if I may express it that way, in order to take care of developments which one cannot specify at the present time, some form of weapon which might be invented or developed in the future, which would have devastating effects comparable to those of nuclear or biological or chemical weapons, but which one simply cannot describe at the present time.”</p>
11	<p><i>United States Government Interagency Domestic Terrorism Concept of Operations Plan</i>, January 2001, B-5; available at <www2.fbi.gov/publications/complan/complan.pdf>.</p>	<p>Weapon of Mass Destruction—A WMD is any device, material, or substance used in a manner, in a quantity or type, or under circumstances evidencing an intent to cause death or serious injury to persons or significant damage to property.</p>
12	<p>Joint Staff, Joint Publication 1-02, <i>DOD Dictionary of Military and Associated Terms</i> (as amended through April 2010). This superseded the definition appearing in A-3 above.</p>	<p>Chemical, biological, radiological, or nuclear weapons capable of a high order of destruction or causing mass casualties and exclude the means of transporting or propelling the weapon where such means is a separable and divisible part from the weapon.</p>
13	<p>United States Strategic Command, Memorandum from Commander, United States Strategic Command, Subject: Establishment of United States Strategic Command (USSTRATCOM) Center for Combating Weapons of Mass Destruction (SCC), August 26, 2005, SM# 218-05.</p>	<p>The term “WMD” is defined as weapons—nuclear, biological, chemical, and radiological—and their means of delivery that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people or cause significant infrastructure damage.</p>
14	<p>National Security Council, Annex V (Attribution Policy) to <i>National Strategy to Combat Weapons of Mass Destruction</i>, February 26, 2008.</p>	<p>“Weapon of Mass Destruction” or “WMD” is any weapon or device that is intended, or has the capability, to cause death or serious bodily injury to a significant number of people through the release, dissemination, or impact of toxic or poisonous chemicals or their precursors; a disease organism; or radiation or radioactivity.</p>

Appendix B. WMD Defined in U.S. Law

	Source	Definition
1	The Weapons of Mass Destruction Control Act of 1992, enacted as Title XV of the Defense Authorization Act of 1993, Pub. L. 102-484 (enacted October 23, 1992).	nuclear, biological, and chemical weapons (hereinafter in this title referred to as "weapons of mass destruction")
2	Title 50 U.S.C. § 2366, enacted as part of the Intelligence Authorization Act for Fiscal Year 1997, October 11, 1996.	<p>REPORTS.—Not later than 6 months after the date of the enactment of this Act, and every 6 months thereafter, the Director of Central Intelligence shall submit to Congress a report on—</p> <p>(1) the acquisition by foreign countries during the preceding 6 months of dual-use and other technology useful for the development or production of weapons of mass destruction (including nuclear weapons, chemical weapons, and biological weapons) and advanced conventional munitions</p>
3	Title 50 U.S.C. § 2302, enacted as part of the Defense Against Weapons of Mass Destruction Act of 1996, September 23, 1996, National Defense Authorization Act for Fiscal Year 1997, Pub. L. 104-201.	<p>(1) The term "weapon of mass destruction" means any weapon or device that is intended, or has the capability, to cause death or serious bodily injury to a significant number of people through the release, dissemination, or impact of—</p> <p>(A) toxic or poisonous chemicals or their precursors;</p> <p>(B) a disease organism; or</p> <p>(C) radiation or radioactivity.</p>

Appendix B, cont.

	Source	Definition
4	<p>Title 18 U.S.C. § 2332a, enacted as part of the Violent Crime Control and Law Enforcement Act of 1994, Pub. L. 103-322, September 13, 1994; subsequently amended.</p>	<p>The term "weapon of mass destruction" means—</p> <ul style="list-style-type: none"> (A) any destructive device as defined in section 921 of this title; (B) any weapon that is designed or intended to cause death or serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors; (C) any weapon involving a disease organism; or (D) any weapon that is designed to release radiation or radioactivity at a level dangerous to human life <p>Title 18 U.S.C. § 921:</p> <p>The term "destructive device" means—</p> <ul style="list-style-type: none"> (A) any explosive, incendiary, or poison gas— <ul style="list-style-type: none"> (i) bomb, (ii) grenade, (iii) rocket having a propellant charge of more than four ounces, (iv) missile having an explosive or incendiary charge of more than one-quarter ounce, (v) mine, or (vi) device similar to any of the devices described in the preceding clauses; (B) any type of weapon (other than a shotgun or a shotgun shell which the Secretary finds is generally recognized as particularly suitable for sporting purposes) by whatever name known which will, or which may be readily converted to, expel a projectile by the action of an explosive or other propellant, and which has any barrel with a bore of more than one-half inch in diameter; and

Appendix B, cont.

	Source	Definition
		<p>(C) any combination of parts either designed or intended for use in converting any device into any destructive device described in subparagraph (A) or (B) and from which a destructive device may be readily assembled.</p> <p>The term "destructive device" shall not include any device which is neither designed nor redesigned for use as a weapon; any device, although originally designed for use as a weapon, which is redesigned for use as a signaling, pyrotechnic, line throwing, safety, or similar device; surplus ordnance sold, loaned, or given by the Secretary of the Army pursuant to the provisions of section 4684(2), 4685, or 4686 of title 10; or any other device which the Secretary of the Treasury finds is not likely to be used as a weapon, is an antique, or is a rifle which the owner intends to use solely for sporting, recreational or cultural purposes.</p>
5	<p>Foreign Intelligence Surveillance Act of 1978, Amendments Act of 2008, Pub. L. 110-261, July 10, 2008, amends Title 50, U.S.C. § 1801.</p>	<p>(p) "Weapon of mass destruction" means—</p> <ol style="list-style-type: none"> (1) any explosive, incendiary, or poison gas device that is designed, intended, or has the capability to cause a mass casualty incident; (2) any weapon that is designed, intended, or has the capability to cause death or serious bodily injury to a significant number of persons through the release, dissemination, or impact of toxic or poisonous chemicals or their precursors; (3) any weapon involving a biological agent, toxin, or vector (as such terms are defined in section 178 of title 18, United States Code) that is designed, intended, or has the capability to cause death, illness, or serious bodily injury to a significant number of persons; or (4) any weapon that is designed, intended, or has the capability to release radiation or radioactivity causing death, illness, or serious bodily injury to a significant number of persons.

Appendix C. Selected International Definitions of WMD

	Source	Definition
1	North Atlantic Treaty Organization (NATO), "NATO's Response to Proliferation of Weapons of Mass Destruction: Facts and Way Ahead," Press Release (95)124, November 29, 1995; available at < www.nato.int/docu/pr/1995/p95-124.htm >.	"WMD" and "NBC weapons" can be used interchangeably.
2	NATO Glossary of Terms and Definitions, AAP-6, 2010, available at < www.nato.int/docu/stanag/aap006/aap6.htm >.	weapon of mass destruction / <i>arme de destruction massive</i> : A weapon that is capable of a high order of destruction and of being used in such a manner as to destroy people, infrastructure or other resources on a large scale (October 1, 2003).
3	Missile Technology Control Regime, Guidelines for Sensitive Missile-Relevant Transfers, January 7, 1993, available at < www.state.gov/www/global/arms/treaties/mtrc_anx.html >.	The purpose of these Guidelines is to limit the risks of proliferation of weapons of mass destruction (i.e. nuclear, chemical and biological weapons).
4	Weapons of Mass Destruction Branch, United Nations (UN) Office for Disarmament Affairs, available at < www.un.org/disarmament/HomePage/about_us/odastructure.shtml >.	"The WMD Branch provides substantive support in the area of the disarmament of weapons of mass destruction (nuclear, chemical and biological weapons)."
5	UN Committee on Conventional Armaments, August 1948	Weapons of mass destruction should be defined to include atomic explosive weapons, radio active material weapons, lethal chemical and biological weapons, and any weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above.
6	Jayantha Dhanapala, Under-Secretary-General for Disarmament Affairs, United Nations, "International Law, Security, and Weapons of Mass Destruction," 2002 Spring Meeting of the Section of International Law and Practice, American Bar Association, New York, May 9, 2002; available at < www.un.org/disarmament/HomePage/HR/docs/2002/2002May09_NewYork.pdf >.	Weapons of mass destruction . . . today consist of nuclear, biological, and chemical arms.

Appendix C, cont.

	Source	Definition
7	<p><i>Dictionary of Basic Military Terms: A Soviet View</i>, published under the auspices of the U.S. Air Force, <i>Soviet Military Thought</i>, vol. 9, trans. DGIS Multilingual Section, Translation Bureau, Secretary of State Department, Ottawa, Canada (Washington, DC: Government Printing Office, 1976), 148.</p>	<p><i>Oruzhiye massovogo porazheniya</i> (weapons of mass destruction)—Weapons used to inflict heavy casualties. They include nuclear, chemical, and bacteriological agents. See also the entry for <i>zashchita voysk ot oruzhiya massovogo porazheniya</i> (protection of troops from weapons of mass destruction): The complex of measures taken for the purpose of preventing injury to personnel and damage to combat materiel and equipment by the weapons and agents used in nuclear, chemical and bacteriological warfare (80).</p>
8	<p><i>Civil Defense (Grazhdanskaya Oborona)</i>, M.N. Titov, P.T. Yegorov, B.A. Gayko et al., ed. G.A. Christy (Moscow: Publishing House for Higher Education, 1974). Trans. Joint Publications Research Service, Arlington, VA (for Defense Civil Preparedness Agency), and Joseph Lewin, Oak Ridge National Laboratory, ORNL–38–2845, July 1975.</p>	<p>Mass destruction weapons is a term used to designate nuclear and chemical weapons capable of inflicting death, injury, and damage in a short period of time on a large number of humans, animals, and plants over extensive areas. Nuclear weapons in addition cause the destruction of buildings, installations, and other structures. (The chapter that follows then proceeds to describe nuclear [but not radiological], chemical, and biological weapons.)</p>
9	<p><i>Tajikistan Criminal Code</i>, available at <www.policy.hu/zari-pova/PCode.htm>.</p>	<p>SECTION XV. CRIME AGAINST THE PEACE AND SAFETY OF MANKIND Chapter 34. Crime Against the Peace and Safety of Mankind Article 397. Production or Distribution of Mass Destruction Weapons Producing, purchasing, keeping, transporting or selling nuclear, neutron, chemical, biological (bacteriological), climatic or other kind of mass destruction weapons prohibited by international treaty, as well as transferring initial or special fissionable materials, technologies which may be used for creating mass destruction weapons to any state which does not have nuclear weapons or transferring other kinds of mass destruction weapons to anybody or components which are necessary for producing them, is punishable by imprisonment for a period of 12 to 20 years.</p>

Appendix C, cont.

	Source	Definition
10	Australia, Weapons of Mass Destruction (Prevention of Proliferation) Act 1995	Weapons of Mass Destruction program or WMD program means a plan or program for the development, production, acquisition or stockpiling of nuclear, biological or chemical weapons or missiles capable of delivering such weapons.
11	Council of the European Union, <i>EU Strategy Against Proliferation of Weapons of Mass Destruction</i> , Annex, Document 15708/03; Brussels, December 10, 2003; available at < http://europa.eu/legislation_summaries/foreign_and_security_policy/cfsp_and_esdp_implementation/133234_en.htm >.	chemical, biological, radiological or fissile materials

Appendix D. Selected Definitions of WMD in State Law

	Source	Definition
1	Alabama Code of Ala. § 13A-10-190 (2010)	<p>Weapons of mass destruction. Include any of the following:</p> <ul style="list-style-type: none"> a. Any destructive device as defined in this section. b. Any weapon that is designed or intended to cause death or serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors. c. Any weapon involving a disease organism. d. Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life. e. Any device, weapon, or vehicle designed to cause mass casualties.
2	Arizona A.R.S. § 13-2301 (2004)	<p>“Weapon of mass destruction” means:</p> <ul style="list-style-type: none"> (a) Any device or object that is designed or that the person intends to use to cause multiple deaths or serious physical injuries through the use of an explosive agent or the release, dissemination or impact of a toxin, biological agent, poisonous chemical, or its precursor, or any vector. (b) Except as authorized and used in accordance with a license, registration or exemption by the radiation regulatory agency pursuant to section 30-672, any device or object that is designed or that the person intends to use to release radiation or radioactivity at a level that is dangerous to human life.
3	Arkansas The Homeland Security Information Act, Act 1366 of 2003, April 15, 2003	<p>“Weapon of mass destruction” means an explosive, chemical, radioactive, or biological agent, or any other substance or device capable of causing extensive property damage, death, or serious physical injury to multiple persons in a single act or series of acts.</p>

Appendix D, cont.

	Source	Definition
4	California Cal. Penal Code § 11417 (2004)	<p>“Weapon of mass destruction” includes chemical warfare agents, weaponized biological or biologic warfare agents, restricted biological agents, nuclear agents, radiological agents, or the intentional release of industrial agents as a weapon, or an aircraft, vessel, or vehicle, as described in Section 34500 of the Vehicle Code, which is used as a destructive weapon.</p>
5	District of Columbia D.C. Code § 22-3152 (2004)	<p>“Weapon of mass destruction” means:</p> <ul style="list-style-type: none"> (A) Any destructive device that is designed, intended, or otherwise used to cause death or serious bodily injury, including: <ul style="list-style-type: none"> (i) An explosive, incendiary, or poison gas: <ul style="list-style-type: none"> (I) Bomb; (II) Grenade; (III) Rocket; (IV) Missile; (V) Mine; or (VI) Device similar to any of the devices described in the preceding clauses; (ii) A mortar, cannon, or artillery piece; or (iii) Any combination of parts either designed or intended for use in converting any device described into a device described in sub-paragraphs (I) through (iii) of this paragraph and from which such device may be readily assembled; (B) An object similar to or used to achieve the same destructive effect of any of the devices described in subparagraph (A) of this paragraph; (C) Any weapon that is designed, intended, or otherwise used to cause death or serious bodily injury through the release, dissemination, or impact of a toxic or poisonous chemical; (D) Any weapon that is designed, intended, or otherwise used to cause death or serious bodily injury through the release, dissemination, or impact of a biological agent or toxin; or (E) Any weapon that is designed, intended, or otherwise used to cause death or serious bodily injury through the release, dissemination, or impact of radiation or radioactivity, or that contains nuclear material.

Appendix D, cont.

	Source	Definition
6	<p>Florida Florida Annotated Statutes Fla. Stat. § 790.166 (2004)</p>	<p>“Weapon of mass destruction” means: 1. Any device or object that is designed or intended to cause death or serious bodily injury to any human or animal, or severe emotional or mental harm to any human, through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors; 2. Any device or object involving a biological agent; 3. Any device or object that is designed or intended to release radiation or radioactivity at a level dangerous to human or animal life; or 4. Any biological agent, toxin, vector, or delivery system.</p>
7	<p>Georgia O.C.G.A. § 16-7-80 (2004)</p>	<p>“Weapon of mass destruction” means any device which is designed in such a way as to release radiation or radioactivity at a level which will result in internal or external bodily injury or death to any person.</p>
8	<p>Idaho Idaho Code § 18-3322 (2004)</p>	<p>As used in this section, the term “weapon of mass destruction” means: (a) Any bomb or destructive device, as those terms are defined in section 18-3318, Idaho Code; (b) Any weapon that is designed or intended to cause death or serious bodily injury through the release, dissemination or impact of toxic or poisonous chemicals or the precursors of such chemicals; (c) Any weapon involving a disease organism; or (d) Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life.</p> <p>§ 18-3318. Definitions Definitions as used in sections 18-3319, 18-3320 and 18-3321, Idaho Code: (1) “Bomb” means any chemical or mixture of chemicals contained in such a manner that it can be made to explode with fire or force, and combined with the method or mechanism intended to cause its explosion. The term includes components of a bomb only when the individual charged has taken steps to place the components in proximity to each other, or has partially assembled components from which a completed bomb can be readily assembled. “Bomb” does not include: rifle, pistol or shotgun ammunition and their components; fireworks; boating, railroad and other safety flares or propellants used in model rockets or similar hobby activities.</p>

Appendix D, cont.

	Source	Definition
		<p>(2) "Destructive device" means:</p> <ul style="list-style-type: none"> (a) Any explosive, incendiary or poisonous gas: <ul style="list-style-type: none"> (i) Bomb; (ii) Grenade; (iii) Rocket having a propellant charge of more than four (4) ounces; (iv) Missile having an explosive or incendiary charge of more than one-fourth (1/4) ounce; (v) Mine; (vi) Similar device. (b) Any type of weapon, by whatever name known, which will, or which may be imminently converted to, expel a projectile by the action of an explosive or other propellant, the barrel or barrels of which have a bore of more than .700 inches in diameter, except rifled and unrifled shotguns or shotgun shells. (c) Components of a destructive device only when the individual charged has taken steps to place the components in proximity to each other, or has partially assembled components from which a completed destructive device can be readily assembled. (d) The term "destructive device" shall not include: <ul style="list-style-type: none"> (i) Any device which is neither designed nor redesigned for use as a weapon; (ii) Any device which, although originally designed for use as a weapon, has been redesigned for use as a signaling, pyrotechnic, line throwing, safety or similar device; (iii) Otherwise lawfully owned surplus military ordnance; (iv) Antiques or reproductions thereof and rifles held for sporting, recreational, investment or display purposes; (v) Rifle, pistol or shotgun ammunition and their components.
9	<p>Indiana Burns Ind. Code Ann. § 35-41-1-29.4 (2004)</p>	<p>"Weapon of mass destruction" means any chemical device, biological device or organism, or radiological device that is capable of being used for terrorism.</p>

Appendix D, cont.

	Source	Definition
10	Kansas K.S.A. § 21-3450 (2009)	The illegal use of weapons of mass destruction is: (1) Intentionally, knowingly and without lawful authority, developing, producing, stockpiling, transferring, acquiring, retaining or possessing any: (A) Biological agent, toxin or delivery system for use as a weapon; (B) chemical weapon; or (C) nuclear materials or nuclear byproduct materials for use as a weapon.
11	Kentucky KRS § 500.080 (2010)	18) "Weapon of mass destruction" means: (a) Any destructive device as defined in KRS 237.030, but not fireworks as defined in KRS 227.700; (b) Any weapon that is designed or intended to cause death or serious physical injury through the release, dissemination, or impact of toxic or poisonous chemicals or their precursors; (c) Any weapon involving a disease organism; or (d) Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life.
12	Minnesota Minn. Stat. § 609.712 (2003)	"Weapon of mass destruction" includes weapons, substances, devices, vectors, or delivery systems that: (1) are designed or have the capacity to cause death or great bodily harm to a considerable number of people through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors, disease organisms, biological agents, or toxins; or (2) are designed to release radiation or radioactivity at a level dangerous to human life.
13	Nevada NRS § 202.4445 (2004)	"Weapon of mass destruction" means any weapon or device that is designed or intended to create a great risk of death or substantial bodily harm to a large number of persons.
14	New Jersey N.J. Stat. § App. A: 9-72 (2010)	For the purposes of this subsection, weapons of mass destruction shall include, but not be limited to, nuclear weapons and biological or chemical agents.

Appendix D, cont.

Source	Definition
<p>15 North Carolina N.C. Gen. Stat. § 14-288.21 (2004) and N.C. Gen. Stat. § 14-288.8 (2004)</p>	<p>§ 14-288.21 The term “nuclear, biological, or chemical weapon of mass destruction,” as used in this Article, means any of the following:</p> <ol style="list-style-type: none"> (1) Any weapon, device, or method that is designed or has the capability to cause death or serious injury through the release, dissemination, or impact of: <ol style="list-style-type: none"> a. Radiation or radioactivity; b. A disease organism; or c. Toxic or poisonous chemicals or their immediate precursors. (2) Any substance that is designed or has the capability to cause death or serious injury and: <ol style="list-style-type: none"> a. Contains radiation or radioactivity; b. Is or contains toxic or poisonous chemicals or their immediate precursors; or c. Is or contains one or more of the following: <ol style="list-style-type: none"> 1. Any select agent that is a microorganism, virus, bacterium, fungus, rickettsia, or toxin listed in Appendix A of Part 72 of Title 42 of the Code of Federal Regulations. 2. Any genetically modified microorganisms or genetic elements from an organism on Appendix A of Part 72 of Title 42 of the Code of Federal Regulations, shown to produce or encode for a factor associated with a disease. 3. Any genetically modified microorganisms or genetic elements that contain nucleic acid sequences coding for any of the toxins listed on Appendix A of Part 72 of Title 42 of the Code of Federal Regulations, or their toxic submits.
	<p>§ 14-288.8 The term “weapon of mass death and destruction” includes:</p> <ol style="list-style-type: none"> (1) Any explosive or incendiary: <ol style="list-style-type: none"> a. Bomb; or b. Grenade; or c. Rocket having a propellant charge of more than four ounces; or d. Missile having an explosive or incendiary charge of more than one-quarter ounce; or e. Mine; or f. Device similar to any of the devices described above; or (2) Any type of weapon (other than a shotgun or a shotgun shell of a type particularly suitable for sporting purposes) which will, or which may be readily converted to, expel a projectile by the action of an explosive or other propellant, and which has any barrel with a bore of more than one-half inch in diameter; or

Appendix D, cont.

	Source	Definition
		<p>(3) Any firearm capable of fully automatic fire, any shotgun with a barrel or barrels of less than 18 inches in length or an overall length of less than 26 inches, any rifle with a barrel or barrels of less than 16 inches in length or an overall length of less than 26 inches, any muffler or silencer for any firearm, whether or not such firearm is included within this definition. For the purposes of this section, rifle is defined as a weapon designed or redesigned, made or remade, and intended to be fired from the shoulder; or</p> <p>(4) Any combination of parts either designed or intended for use in converting any device into any weapon described above and from which a weapon of mass death and destruction may readily be assembled.</p> <p>The term “weapon of mass death and destruction” does not include any device which is neither designed nor redesigned for use as a weapon; any device, although originally designed for use as a weapon, which is redesigned for use as a signaling, pyrotechnic, line-throwing, safety, or similar device; surplus ordnance sold, loaned, or given by the Secretary of the Army pursuant to the provisions of section 4684(2), 4685, or 4686 of Title 10 of the United States Code; or any other device which the Secretary of the Treasury finds is not likely to be used as a weapon, is an antique, or is a rifle which the owner intends to use solely for sporting purposes, in accordance with Chapter 44 of Title 18.</p>
<p>16</p> <p>Ohio ORC Ann. 2917.31 (2004)</p>	<p>“Weapon of mass destruction” means any of the following:</p> <ul style="list-style-type: none"> (a) Any weapon that is designed or intended to cause death or serious physical harm through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors; (b) Any weapon involving a disease organism or biological agent; (c) Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life; (d) Any of the following, except to the extent that the item or device in question is expressly excepted from the definition of “destructive device” pursuant to 18 U.S.C. 921(a)(4) and regulations issued under that section: <ul style="list-style-type: none"> (i) Any explosive, incendiary, or poison gas bomb, grenade, rocket having a propellant charge of more than four ounces, missile having an explosive or incendiary charge of more than one-quarter ounce, mine, or similar device; (ii) Any combination of parts either designed or intended for use in converting any item or device into any item or device described in division (E)(3)(d)(i) of this section and from which an item or device described in that division may be readily assembled. 	

Appendix D, cont.

		Source	Definition
17		Pennsylvania 18 Pa. C.S. § 2715 (2004)	"Weapon of mass destruction." A bomb, biological agent, chemical agent or nuclear agent.
18		South Carolina S.C. Code Ann. § 16-23-710 (2003)	<p>"Weapon of mass destruction" means:</p> <ul style="list-style-type: none"> (a) any destructive device as defined in item (7); (b) any weapon that is designed or intended to cause death or serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors; (c) any weapon involving a disease organism; or (d) any weapon that is designed to release radiation or radioactivity at a level dangerous to human life. <p>(7) "Destructive device" means:</p> <ul style="list-style-type: none"> (a) a bomb, incendiary device, or any thing that can detonate, explode, be released, or burn by mechanical, chemical, or nuclear means, or that contains an explosive, incendiary, poisonous gas, or toxic substance (chemical, biological, or nuclear materials) including, but not limited to, an incendiary or over-pressure device, or any other device capable of causing damage, injury, or death; (b) a bacteriological weapon or biological weapon; or (c) a combination of any parts, components, chemical compounds, or other substances, either designed or intended for use in converting any device into a destructive device which has been or can be assembled to cause damage, injury, or death.
19		Tennessee Tenn. Code Ann. § 39-13-803 (2004)	"Weapon of mass destruction" includes chemical warfare agents, biological or biologic warfare agents, weaponized agents, weaponized biological or biologic warfare agents, nuclear agents, radiological agents, or the intentional release of industrial agents as a weapon.

Appendix D, cont.

	Source	Definition
20	Utah Utah Code Ann. § 76-10-401 (2004)	(a) "Weapon of mass destruction" means: (i) any item or instrumentality that is designed or intended to cause widespread death or serious bodily injury to multiple victims; (ii) any item or instrumentality that is designed or intended to cause death or serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors; (iii) any disease organism, including any biological agent, toxin, or vector which is used or intended to be used as a weapon; (iv) any item or instrumentality that is designed to release radiation or radioactivity at a level dangerous to human life and that is used or intended to be used as a weapon; or (v) any substance or material or combination which has been prepared or altered for use in the creation of a weapon described in Subsections (6)(a)(i) through (iv). (b) "Weapon of mass destruction" does not include firearms or rifle, pistol, or shotgun ammunition, reloading components, or muzzleloading equipment.
21	Vermont 13 V.S.A. § 3501 (2004)	"Weapon of mass destruction" means a chemical warfare agent, weaponized biological or biologic warfare agent, nuclear agent, or radiological agent.
22	Wyoming Wyo. Stat. § 35-9-152 (2004)	"Weapons of mass destruction" means as defined in 18 U.S.C. 2332(a) as of April 1, 2004, or as subsequently defined by rules and regulations of the homeland security director.

Notes

¹ Donald H. Rumsfeld, "Designation of Responsibilities for Combating Weapons of Mass Destruction (WMD) to Commander, US Strategic Command (CDRUSSTRAT-COM)," memorandum, January 6, 2005.

² Department of Defense (DOD), "Standardization of Military and Associated Terminology," DOD Directive 5025.12, June 30, 2004. It was superseded by "Standardization of Military and Associated Terminology," DOD Instruction 5025.12, August 14, 2009, accessed at <www.dtic.mil/whs/directives/corres/pdf/502512p.pdf>. The text of the original directive is no longer accessible. The new policy is more definitive than the one it replaced: "That the DoD Components use Reference (c) [Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, as amended] as the primary terminology source when preparing correspondence, to include policy, strategy, doctrine, and planning documents."

³ Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: Joint Chiefs of Staff [JCS], 2001, as amended). This definition was in use in January 2005; it is no longer accessible at the original source. Emphasis added.

⁴ Joint Publication 3-40, *Combating Weapons of Mass Destruction* (Washington, DC: JCS, June 10, 2009), iii-iv, mentions the adoption of a new definition; see also GL-6; available at <www.dtic.mil/doctrine/new_pubs/jp3_40.pdf>.

⁵ These statistics derive from online searches of *The New York Times* using Lexis-Nexis and ProQuest Historical Newspapers, *The New York Times* (1851-2001). The tabulation includes any mention of the terms "weapon of mass destruction," "weapon of mass destruction," or "weapons adaptable to mass destruction." The latter phrase appeared 46 times, almost all between 1945 and 1949.

⁶ The American Dialect Society made WMD its word (or phrase) of the year in 2002. See <www.americandialect.org/index.php/amerdial/2002_words_of_the_y/>. In 2003, it was on the "List of Words Banished from the Queen's English for Mis-use, Over-use and General Uselessness," issued annually since 1976 by Lake Superior State University. See <www.lssu.edu/banished/archive/2003.php>. The Web site <www.yourdictionary.com> made WMD one of its top 10 phrases of 2003. See <www.yourdictionary.com/about/topten2003.html>.

⁷ Susan D. Moeller, "Media Coverage of Weapons of Mass Destruction," Center for International and Security Studies, University of Maryland, College Park, March 9, 2004, 28, available at <www.cissm.umd.edu/documents/WMDstudy_full.pdf>.

⁸ For examples, Ashton B. Carter, "How to Counter WMD," *Foreign Affairs* (September-October 2004), 73, asserts that WMD are generally considered to be nuclear, biological, and chemical weapons and their delivery means, as well as so-called "dirty bombs" (radiological dispersion devices). He argues that this definition "is too broad," and proposes to define WMD as only nuclear and biological weapons. Similarly, Gert G. Harigel,

“Chemical and Biological Weapons: Use in Warfare, Impact on Society and Environment,” Nuclear Age Peace Foundation, November 2001, argues that neither chemical nor biological weapons should be considered WMD based on the numbers of people actually killed by use of such weapons, but that most conventional munitions should. Available at <www.wagingpeace.org/articles/2001/11/00_harigel_cbw.htm>.

A systematic attempt to develop an alternative definition for WMD was proposed in National Security Policy Division, Headquarters U.S. Air Force Staff, “Emerging WMD Technologies and the U.S. Air Force,” Air Force Emerging Issues Project, December 2004. The paper proposes a Mass Destruction Index to create a quantitatively comparable measure of destructiveness and gives examples of its application, but provides no details regarding how the index was constructed. The authors of that study recommended adoption of a quantitative, effects-based definition, but admitted to failure in attempting to create such an alternative.

⁹ Commission to Assess the Organization of the Federal Government to Combat the Proliferation of Weapons of Mass Destruction, “Combating Proliferation of Weapons of Mass Destruction,” Pub. L. 293, 104th Cong. (July 14, 1999), ii–iii, available at <www.fas.org/spp/starwars/program/deutch/11910book.pdf>; George Perkovich, “Deconflating ‘WMD,’” no. 17, WMD Commission, Stockholm, Sweden, n.d. [2004], available at <www.blixassociates.com/wp-content/uploads/2011/03/No17.pdf>.

¹⁰ Baron Butler of Brockwell, Frederick Edward Robin Butler, *Review of Intelligence on Weapons of Mass Destruction* (London: Her Majesty’s Stationery Office, 2004), 3.

¹¹ United Nations (UN) General Assembly Resolution 1(I), “Establishment of a Commission to Deal with the Problem Raised by the Discovery of Atomic Energy,” January 24, 1946. Unless specified otherwise, all UN General Assembly resolutions are available at <www.un.org/documents/resga.htm>.

¹² Commission on Conventional Armaments (CCA), UN document S/C.3/32/Rev.1, August 1948, as quoted in UN, Office of Public Information, *The United Nations and Disarmament, 1945–1965*, UN Publication 67.I.8, 28.

¹³ There is a fourth treaty now in force, the Moon Agreement, which also controls WMD. Most countries, including the United States, have not become a party to it for reasons that have nothing to do with disarmament issues. The Outer Space Treaty, the Seabed Treaty, and the Moon Agreement impose limitations on “nuclear weapons or any other kinds of weapons of mass destruction.”

¹⁴ Senate Committee on Foreign Relations, *Seabed Arms Control Treaty, Hearing on EX. H.92–1*, 92^d Cong., 2^d sess., January 27, 1972 (Washington, DC: Government Printing Office (GPO), 1972), 22.

¹⁵ This background casts doubt on those who contend that there is no legal meaning associated with the term, as argued, for example, by David P. Fidler, “Weapons of Mass Destruction and International Law,” *ASIL Insights*, February 2003, available at <www.asil.org/insights/insigh97.htm>.

Contemporary international legal analysis generally follows this conventional definition of WMD, even though neither treaty law nor customary international law contains an authoritative definition of WMD. The reason such a definition does not exist is that states have historically used international law to address each category of weapons within the WMD rubric. International law specifically on WMD is, thus, comprised of three different sets of rules for each WMD technology.

It is unclear, however, whether Fidler was aware of the history recounted here. More defensibly, Ann Van Wynen Thomas and A.J. Thomas, Jr., *Legal Limits on the Use of Chemical and Biological Weapons: International Law 1899–1970* (Dallas, TX: Southern Methodist University Press, 1970), 117–119, argued that there was no agreed-upon definition in 1967 when the Outer Space Treaty entered into force. This position was arguable because U.S. negotiators certainly thought they knew what WMD meant while they were negotiating the treaty. However, the whole matter clearly became moot in 1977 with adoption of UN General Assembly Resolution 32/84, which formally adopted the CCA definition discussed below in this paper.

¹⁶ "Archbishop's Appeal: Individual Will and Action; Guarding Personality," *The Times* (London), December 28, 1937, 9. Emphasis added. Lang was archbishop from 1928 to 1942. WMD Center research assistant Karin Lion located this source using a reference found on <<http://wordorigins.org>>. While other Web sites mentioned this 1937 use of WMD, only <<http://wordorigins.org>> identified both the newspaper and the date, although it attributed the usage to *The Times* and not to the Archbishop. In contrast, on February 12, 2003, the British Broadcasting Company (BBC) posted a report on its Web site claiming that the term WMD appeared during 1937 in unspecified British newspapers, but provided no additional details; available at <<http://news.bbc.co.uk/1/hi/uk/2744411.stm>>.

¹⁷ Numerous Web sites assert that the use of the term in 1937 related to aerial bombing using conventional weapons, apparently copying what appeared on the BBC Web site referenced in note 16.

¹⁸ Guernica was a Basque city attacked by German bombers supporting Spanish Fascist forces on April 26, 1937, causing extensive destruction and much loss of life. Similarly, the Japanese bombed Chinese cities in 1937 during the Second Sino-Japanese War, a conflict considered to have been sparked by the so-called Marco Polo Bridge Incident on July 7, 1937. The Archbishop had close ties to senior officials in the United Kingdom (Prime Minister Neville Chamberlain was a friend), and was interested in disarmament issues. See his biography, J.L. Lockhart, *Cosmo Gordon Lang* (London: Hodder and Stoughton, 1949), 373. However, there is nothing in the biography to suggest a deep interest in the subject. A review of the index to *The Times* (London) gives no indication that he ever addressed the bombing of Guernica, although he spoke out often about the Italian invasion of Abyssinia.

¹⁹ The Archbishop condemned Italian use of chemical weapons in Abyssinia during a session of the House of Lords, as reported in *The Times* (London), March 31, 1936, 8. His comments make clear he was aware of the horrors of chemical weapons use during World War I.

²⁰ During the 1930s, many people believed that a future war inevitably would involve bombers making chemical attacks on cities. In 1935, the British Home Office released its first *Air Raid Precautions Circular* and initiated a well-publicized preparedness program that focused heavily on defenses against chemical weapons. These issues are discussed in T.H. O'Brien, *Civil Defence (History of the Second World War)* (London: His Majesty's Stationary Office, 1955). Given the Archbishop's close ties to government officials—successive prime ministers were friends—it is certainly possible he knew of these views.

²¹ The 1925 Geneva Protocol, which prohibited use of chemical weapons in warfare, also extended its ban to bacteriological weapons. Moreover, in 1934, a British journalist (notably a former editor of the *London Times*) reported—purportedly using German documents—that the Germans were researching biological warfare. See Martin Hugh Jones, "Wickham Steed and German Biological Warfare Research," *Intelligence and National Security* 7, no. 4 (October 1992), 379–402.

²² This declaration is the very first document reproduced in Department of State, Historical Office, *Documents on Disarmament, 1945–1969, Volume I: 1945–1956*, pub. 7008, August 1960, 1–3. Emphasis added. It appears to have inspired the first known use of WMD in *The New York Times*. See Arthur Krock, "In the Nation: In Other Words—Truman, Attlee, King," *The New York Times*, November 16, 1945, 16.

²³ State Department, *Foreign Relations of the United States, 1946, Volume I: General; The United Nations* (Washington, DC: GPO, 1972), 733, from the minutes of the Meeting of the U.S. Delegation to the Political and Security Committee of the UN General Assembly, January 18, 1946. Benjamin V. Cohen, Counselor, Department of State, and Advisor, U.S. Delegation to the UN, provided the explanation. He was responding to a question from "Admiral Turner" (presumably a reference to Richmond Kelly Turner). Admiral Turner, a senior amphibious force commander in the Pacific during World War II, was then the U.S. Naval Representative to the UN Military Staff Committee. A brief account of Admiral Turner's activities at the UN appears in George C. Dyer, *The Amphibians Came to Conquer: The Story of Admiral Richmond Kelly Turner*, vol. 2 (Washington, DC: GPO, 1972), 1113–1135.

²⁴ Gregg Pascal Zachary, *Endless Frontier: Vannevar Bush, Engineer of the American Century* (Cambridge, MA: MIT Press, 1999), provides the best account of Dr. Bush's role in managing U.S. science and technology during the war.

²⁵ Vannevar Bush, *Pieces of the Action* (New York: William Morrow and Company, 1970), 296–298.

²⁶ UN General Assembly Resolution 1(I), January 24, 1946. Emphasis added. This resolution established the UN Atomic Energy Commission at which the United States proposed the "Baruch Plan" for the international control of atomic weapons.

²⁷ See the observations in A.M. Rosenthal, "Ban on Germ Warfare by the U.N. is Unlikely," *The New York Times*, August 9, 1948, 3.

²⁸ General Assembly adopted Resolution 41 on December 14, 1946. Security Council Resolution 18 (1947), S/268/Rev.1/Corr.1, adopted February 13, 1947, established the CCA. For a history of the CCA, see Bernhard G. Bechhoefer, *Postwar Negotiations for Arms Control* (Washington, DC: The Brookings Institution, 1961), 83–94, 136–141. The Disarmament Commission replaced the CCA and the Atomic Energy Commission in 1951.

²⁹ CCA, UN document S/C.3/32/Rev.1, August 1948, as quoted in UN, Office of Public Information, *The United Nations and Disarmament, 1945–1965*, UN Publication 67.I.8, 28. It also appeared in "Resolution Defining Armaments," *State Department Bulletin*, August 29, 1948, 268.

³⁰ An account of CCA activities related to its adoption of a WMD definition can be found in the footnotes to pages 311–312 and 377–378 in Department of State, *Foreign Relations of the United States, 1948, Volume I, Part 1: The United Nations* (Washington, DC: GPO, 1975).

³¹ When the Soviets announced their acceptance of the 1948 CCA definition, they noted that other countries had urged them to do so. "Statement by the Soviet Representative (Likhatchev) to the Conference of the Committee on Disarmament: Weapons of Mass Destruction, August 9, 1977," as found in U.S. Arms Control and Disarmament Agency, *Documents on Disarmament 1977*, pub. 101, June 1979, 498–502. The revised text of the draft treaty is at pages 493–496.

During those same negotiations, the United States also went on record as fully agreeing with the 1948 definition; *ibid.*, 512–515, but especially 514. The British representative, speaking on behalf of 10 other countries, also cited the CCA definition in his comments to the First Committee of the General Assembly, on November 7, 1977, 669–700.

³² U.S. Arms Control and Disarmament Agency, *Documents on Disarmament 1977*, pub. 101, June 1979, 838–841. The General Assembly reaffirmed its adherence to this definition in 1999: "Determined to prevent the emergence of new types of weapons of mass destruction that have characteristics comparable in destructive effect to those of weapons of mass destruction identified in the definition of weapons of mass destruction adopted by the United Nations in 1948," UN General Assembly Resolution A/RES/54/44, "Prohibition of the development and manufacture of new types of weapons of mass destruction and new systems of such weapons," December 23, 1999.

³³ UN General Assembly Resolution A/RES/51/37, "Prohibition of the development and manufacture of new types of weapons of mass destruction and new systems of such weapons," December 10, 1996; UN General Assembly Resolution A/RES/54/44,

“Prohibition of the development and manufacture of new types of weapons of mass destruction and new systems of such weapons,” December 23, 1999; UN General Assembly Resolution A/RES/57/50, “Prohibition of the development and manufacture of new types of weapons of mass destruction and new systems of such weapons,” December 30, 2002; UN General Assembly Resolution A/RES/60/46, “Prohibition of the development and manufacture of new types of weapons of mass destruction and new systems of such weapons: report of the Conference on Disarmament,” January 6, 2006; UN General Assembly Resolution A/RES/63/36, “Prohibition of the development and manufacture of new types of weapons of mass destruction and new systems of such weapons: report of the Conference on Disarmament,” January 13, 2009.

³⁴ While the Geneva Protocol’s reference to “bacteriological” agents would seem to limit its scope to a single category of microbial pathogen (bacteria), the treaty’s negotiating history and subsequent usage in arms control negotiations indicate that the international community viewed its prohibitions as extending to other known infectious entities (such as fungi, protozoa, and viruses) as well. For background, see Stockholm International Peace Research Institute (SIPRI), *The Problem of Chemical and Biological Warfare, Volume III: CBW and the Law of War* (New York: The Humanities Press, 1971), 42–44.

A 1932 Special Committee on CBW report to the Disarmament Conference described biological weapons as including those that disseminate “pathogenic microbes in whatever phase they may be (virulent or capable of becoming so), or of filter-passing viruses, or of infected substances.” See SIPRI, *The Problem of Chemical and Biological Warfare, Volume IV: CB Disarmament Negotiations* (New York: The Humanities Press, 1971), 116–117. It is perhaps for this reason that the Maltese government received no support in 1967 for its proposal to revise the Geneva Protocol to substitute the word “biological” for “bacteriological,” among other suggested improvements (see 247–248).

³⁵ Officially known as the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (or, more commonly, as the Treaty of Tlatelolco), the preamble includes the comment, “*Recalling* that the United Nations General Assembly, in its Resolution 808 (IX), adopted unanimously as one of the three points of a coordinated programme of disarmament ‘the total prohibition of the use and manufacture of nuclear weapons and weapons of mass destruction of every type.’”

³⁶ The preamble to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction contains two references to WMD. It starts by asserting, “The States Parties to this Convention, *Determined* to act with a view to achieving effective progress towards general and complete disarmament, including the prohibition and elimination of all types of weapons of mass destruction, and convinced that the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and their elimination, through effective measures, will facilitate the achievement of general and

complete disarmament under strict and effective international control. . . ." A subsequent phrase avers that, "*Convinced* of the importance and urgency of eliminating from the arsenals of States, through effective measures, such dangerous weapons of mass destruction as those using chemical or bacteriological (biological) agents."

³⁷ The first paragraph of the preamble to the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction includes the following phrase: "The States Parties to this Convention, *Determined* to act with a view to achieving effective progress towards general and complete disarmament under strict and effective international control, including the prohibition and elimination of all types of weapons of mass destruction."

³⁸ For a history of the treaty negotiations, see Raymond L. Garthoff, "Banning the Bomb in Outer Space," *International Security* 5, no. 3 (Winter 1980–1981), 25–40. Unless otherwise noted, this is the source for this account.

³⁹ See <<http://treaties.un.org/doc/Publication/UNTS/Volume%20610/volume-610-I-8843-English.pdf>>. Emphasis added.

⁴⁰ The Soviet Union apparently feared that the Western bloc was trying to limit development of intercontinental ballistic missiles, which was an area of Soviet strategic advantage over the West, and were resistant to Western demands for intrusive inspections to ensure treaty compliance.

⁴¹ The original treaty text, proposed by the Soviet Union, would have imposed "a ban on the use of cosmic space for military purposes." See Department of State, Historical Office, *Documents on Disarmament, 1945–1959, Volume II: 1957–1959*, pub. 7008 (August 1960), 973–977 and 1228–1230, especially the footnotes.

⁴² Dwight D. Eisenhower, "Address Before the 15th General Assembly of the United Nations, New York City, September 22th, 1960," as found in the Public Papers of the Presidents, as maintained online by the American Presidency Project, available at <www.presidency.ucsb.edu/ws/index.php?pid=11954&st=address+before+the+15th&st1=#axzz1Wj4mCx8P>.

⁴³ John F. Kennedy, "Address in New York City Before the General Assembly of the United Nations, September 25th, 1961," as found in the Public Papers of the Presidents, as maintained online by the American Presidency Project, available at <www.presidency.ucsb.edu/ws/index.php?pid=8352&st=Address+in+New+York+City&st1=#axzz1Wj4mCx8P>. Emphasis added.

⁴⁴ United States Arms Control and Disarmament Agency, *Documents on Disarmament 1962, Volume I: January–June*, pub. 19 (November 1963), 360.

⁴⁵ "Kennedy to Tour Space Facilities," *The New York Times*, September 6, 1962, 16. Emphasis added. For a discussion of the context of the Gilpatric speech, see State Department, *Foreign Relations of the United States, 1961–1963, Volume VII, Arms Control and Disarmament*, doc. 226, 563–565, available at <<http://history.state.gov/historicaldocuments/frus1961-63v07/d226>>.

⁴⁶ Lyndon B. Johnson, "Statement by the President on the Need for a Treaty Governing Exploration of Celestial Bodies," May 7, 1966, available at <www.presidency.ucsb.edu/ws>.

⁴⁷ Senate Committee on Foreign Relations, *Treaty on Outer Space*, hearings before the 90th Cong., 1st sess., on Executive D, March 7, 13, and April 12, 1967 (Washington, DC: GPO, 1967), 23. Senator Frank Carlson asked the question again and Ambassador Goldberg responded, "This is a weapon of comparable capability of annihilation to a nuclear weapon, bacteriological. It does not relate to a conventional weapon," 76.

⁴⁸ According to Ambassador James Leonard, Ambassador Goldberg was a brilliant negotiator but often careless of details. Leonard believed that Goldberg's testimony was replete with factual and legal errors. James Leonard, telephone interview with author, February 16, 2005.

⁴⁹ Senate Committee on Foreign Relations, *Treaty on Outer Space*, 100.

⁵⁰ Text as found at <www.un-documents.net/seabed.htm>. Emphasis added.

⁵¹ A history of the negotiations is provided by Robert Lambert and John Syphax, *International Negotiations on the Seabed Arms Control Treaty*, pub. 68 (Washington, DC: Arms Control and Disarmament Agency, May 1973). Its narrative draws primarily on publicly available documents, including many that appear in various editions of U.S. Arms Control and Disarmament Agency, *Documents on Disarmament* (Washington, DC: Arms Control and Disarmament Agency, various dates). Especially important for this discussion were *Documents on Disarmament 1968*, pub. 52 (September 1969), 824–827, and *Documents on Disarmament 1969*, pub. 55 (August 1970), 746–749. Documents found in State Department, *Foreign Relations of the United States, 1964–1968, Volume XI, Arms Control and Disarmament* (Washington, DC: GPO, 1997) are essential. An online version is available at <www.state.gov/www/about_state/history/vol_xi/index.html>. The State Department has not yet published any volumes in this series from the Nixon administration. An insider's account of the negotiations was provided by Edward Wen, *The Politics of the Ocean* (Seattle: University of Washington Press, 1972), 288–293.

⁵² Lyndon B. Johnson, "Message to the Eighteen-Nation Disarmament Committee on Its Reconvening in Geneva," July 16, 1968, available at <www.presidency.ucsb.edu/ws>. Emphasis added.

⁵³ "Tab A to Letter From Secretary of Defense Clifford to Secretary of State Rusk," August 15, 1968, in State Department, *Foreign Relations of the United States, 1964–1968, Volume XI, Arms Control and Disarmament*, doc. 280, 682, available at <<http://history.state.gov/historicaldocuments/frus1964-68v11/d270>>.

⁵⁴ The following discussion draws on the documents contained in State Department, *Foreign Relations of the United States, 1969–1976, Volume E-2, Documents on Arms Control and Nonproliferation, 1969–1972*, available at <<http://history.state.gov/historicaldocuments/frus1969-76ve02/comp1>>.

⁵⁵ The document cites *Dictionary of U.S. Military Terms for Joint Usage* (Washington, DC: Joint Staff, 1968), as the source of the definition.

⁵⁶ See "Memorandum From the Director of the Arms Control and Disarmament Agency (Smith) to the President's Assistant for National Security Affairs (Kissinger), Washington, February 28, 1969," in State Department, *Foreign Relations of the United States, 1969–1976, Volume E–2, Documents on Arms Control and Nonproliferation, 1969–1972*, doc. 66, available at <<http://history.state.gov/historicaldocuments/frus1969-76ve02/d66>>. There are slight discrepancies between the original document, also available at that site, and the transcription.

⁵⁷ "Telegram 41598 From the Department of State to the Mission in Geneva, March 18, 1969," State Department, *Foreign Relations of the United States, 1969–1976, Volume E–2, Documents on Arms Control and Nonproliferation, 1969–1972*, doc. 77, available at <<http://history.state.gov/historicaldocuments/frus1969-76ve02/d77>>. The instructions included the following question: "What weapons should be included within the terms 'weapons of mass destruction? Launching platforms and delivery vehicles?'"

⁵⁸ Senate Committee on Foreign Relations, *Seabed Arms Control Treaty*, 22.

⁵⁹ Curiously, subparagraph (b) refers to the official title of the Seabed Treaty, but does not otherwise mention WMD, while subparagraph (c) does not mention the Outer Space Treaty but explicitly bans WMD in Earth orbit or in "a fraction of an Earth orbit."

⁶⁰ The treaty negotiators also addressed how to deal with new, nonnuclear strategic weaponry, a question related to the "weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above" in the 1948 UN definition. According to the Second Agreed Statement, "The Parties agree that, in the event of the emergence in the future of a new kind of arm that one Party considers could be a new kind of strategic offensive arm, that Party shall have the right to raise the question of such an arm for consideration by the Joint Compliance and Inspection Commission in accordance with subparagraph (c) of Article XV of the Treaty." See the Agreed Statements Annex, available at <www.state.gov/documents/organization/27361.pdf>. Marshall Brown brought this provision to my attention.

⁶¹ The extract is from Article IX. The formal name of the agreement is Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Strategic Offensive Arms.

⁶² Accessed at <www.state.gov/www/global/arms/treaties/salt2-2.html>.

⁶³ UN Treaties, *United Nations treaties and principles on outer space and related General Assembly resolutions*, "Addendum: Status of international agreements relating to activities in outer space as at 1 January 2004," ST/SPACE/11/Add.1/Rev.1, February 2004.

⁶⁴ See UN Treaties, Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, available at <www.oosa.unvienna.org/pdf/publications/STSPACE11E.pdf>.

⁶⁵ See, for example, Kevin V. Cook, “NOTE: The Discovery of Lunar Water: An Opportunity to Develop a Workable Moon Treaty,” *Georgetown International Environmental Law Review* 11 (Spring 1999), 647–704.

⁶⁶ A summary of these negotiations is in Department of Political and Security Council Affairs, United Nations Centre for Disarmament, *The United Nations Disarmament Yearbook, Volume I, 1976* (New York: United Nations, 1976), 201–209.

⁶⁷ UN General Assembly Resolution 3479 (XXX), December 11, 1975.

⁶⁸ U.S. Arms Control and Disarmament Agency, *Documents on Disarmament 1978*, pub. 107 (October 1980), 420.

⁶⁹ The issue appears every year in the review of Conference on Disarmament (CD) deliberations. The last time the CD reported substantively was in the context of the report of its 1992 sessions, summarized in paragraphs 89–92 of CD/1173.

⁷⁰ A subsequent effort to negotiate a treaty to ban radiological weapons failed. Although the United States and the Soviet Union agreed on a joint approach, the two superpowers were unable to convince the Committee on Disarmament to give priority to their initiative. The report of the Ad Hoc Working Group on Radiological Weapons to the Committee on Disarmament, August 8, 1980, in Arms Control and Disarmament Agency, *Documents on Disarmament 1980*, pub. 116 (December 1983), 355–358, discusses some of the problems that prevented the international community from reaching a consensus on pursuing a treaty.

⁷¹ UN Security Council, “Note by the President of the Security Council,” S/32500, January 31, 1992.

⁷² UN Security Council Resolution S/Res/1540, adopted April 28, 2004. While the resolution did not define WMD, it did define delivery systems (“for the purpose of this resolution only”): “missiles, rockets and other unmanned systems capable of delivering nuclear, chemical, or biological weapons, that are specially designed for such use.”

⁷³ UN General Assembly Resolution A/Res/50/70, December 12, 1995, section C.

⁷⁴ UN General Assembly Resolution A/Res/51/37, December 10, 1996.

⁷⁵ Text of the guidelines is available at <www.mtrc.info/english/guidetext.htm>.

⁷⁶ “Proliferation Security Initiative: Statement of Interdiction Principles,” fact sheet, The White House, September 3, 2004, available at <www.state.gov/t/isn/c27726.htm>. As of October 2011, the United States has agreements with Antigua and Barbuda, Bahamas, Belize, Croatia, Cyprus, Liberia, Malta, Marshall Islands, Mongolia, Panama, and St. Vincent and the Grenadines, according to a State Department summary available at <www.state.gov/t/isn/c27733.htm>.

⁷⁷ The treaties are available at <www.state.gov/t/isn/c27733.htm>.

⁷⁸ The author has found that many colleagues familiar with Soviet military doctrine routinely ascribe the term to the Soviet Union. For examples in print, see the passing mention of WMD in Chris Bellamy, *Absolute War: Soviet Russia in the Second World War*

(New York: Knopf, 2007), 265. Attribution of modern usage of WMD to Soviet military doctrine appears in Eric A. Croddy and James J. Wirtz, "Preface: Weapons of Mass Destruction," *Weapons of Mass Destruction: An Encyclopedia of Worldwide Policy, Technology, and History*, vol. 2 (Santa Barbara, CA: ABC-CLIO, 2005), ix.

⁷⁹ *Dictionary of Basic Military Terms: A Soviet View*, published under the auspices of the U.S. Air Force, *Soviet Military Thought*, vol. 9, trans. DGIS Multilingual Section, Translation Bureau, Secretary of State Department, Ottawa, Canada (Washington, DC: GPO, 1976), 148.

⁸⁰ CIA et al., *Warsaw Pact Forces Opposite NATO* (NIE 11-14-79), January 31, 1979, National Intelligence Estimate, vol. I, Summary Estimate, 23, available at <www.foia.cia.gov/>.

⁸¹ Soviet diplomats accepted the term in disarmament diplomacy from 1946, as evident from a review of articles in *The New York Times*. The earliest use of the term by a Soviet military official found in that source appears in Osgood Caruthers, "Soviet Aide Calls West Too Weak," *The New York Times*, Feb 4, 1959, 1, which quotes Marshal R. Ia. Malinovskii, Soviet minister of defense. The term also appeared in Marshal V.D. Sokolovsky, ed., *Soviet Military Strategy*, trans. and with an analytic introduction by Herbert S. Dinerstein, Leon Gouré, and Thomas W. Wolfe (Englewood Cliffs, NJ: Prentice-Hall, 1963), 274. That volume included a footnote quoting Marshall R. Ia. Malinovskii using the term in 1961 (page 287). A different translation is Marshal V.D. Sokolovsky, ed., *Military Strategy: Soviet Doctrine and Concepts* (New York: Frederick A. Praeger, 1963), 170.

⁸² "Basic Provisions of the Military Doctrine of the Russian Federation," November 1993, available at <www.fas.org/nuke/guide/russia/doctrine/russia-mil-doc.html>.

⁸³ "Text of Russian Military Doctrine," *Nezavisimaya Gazeta* (Moscow), April 22, 2000, 5-6, ["Russian Federation Military Doctrine, Approved by Russian Federation Presidential Edict of 21 April 2000"], Open Source Center, CEP20000424000171.

⁸⁴ Russian Federation presidential edict, "The Military Doctrine of the Russian Federation," CEP20100208042001, Moscow, newly approved Russian military doctrine, February 5, 2010, as provided by Open Source Center.

⁸⁵ Based on a search of the Public Papers of the President made available by the American Presidency Project at <www.presidency.ucsb.edu/ws/>. Search terms included "weapons adaptable to mass destruction," "weapons of mass destruction," or "weapon of mass destruction." Excluding documents issued by the press office, this database identifies the following uses (through the end of 2010): Truman, 6; Eisenhower, 4; Kennedy, 4; Johnson, 14; Nixon, 8; Ford, 0; Carter, 3; Reagan, 9; Bush, 82; Clinton, 502; Bush, 820; Obama, 39.

Eisenhower, Reagan, George H.W. Bush, Clinton, and George W. Bush used WMD in response to questions from journalists during news conferences. Such instances are particularly interesting because they most likely involve use of reflect words with which a President is comfortable.

⁸⁶ Based on a review of the party platforms collected by the American Presidency Project, available at <www.presidency.ucsb.edu/platforms.php>. The Democrats also mentioned WMD in their party platforms in 1948, 1964, and 1968, as did the Republicans in 1956.

⁸⁷ An online search of the Public Papers of President George H.W. Bush, maintained by the Bush Presidential Library, located 82 documents in which the term *WMD* appears, although this may include some duplicates. A scan of the documents indicates that the President never defined the term. His earliest use of the term as President was in “Remarks at the United States Coast Guard Academy Commencement Ceremony in New London, Connecticut,” May 24, 1989, available at <http://bushlibrary.tamu.edu/research/public_papers.php?id=448&year=&month=>. National Security Directive 70 apparently is the only National Security Council document from his administration that mentions WMD; available at <<http://bushlibrary.tamu.edu/research/pdfs/nsd/nsd70.pdf>>. In contrast, the National Security Review (NSR) that initiated his administration’s development of a nonproliferation policy does not mention WMD, but refers only to “nuclear weapons, chemical and biological weapons, and missiles capable of carrying these weapons.” See NSR–17, “Review of United States Non-Proliferation Policy,” June 15, 1989, available at <<http://bushlibrary.tamu.edu/research/pdfs/nsr/nsr17.pdf>>.

⁸⁸ *National Security Strategy of the United States* (Washington, DC: The White House, March 1990), 2, 13, available at <http://bushlibrary.tamu.edu/research/pdfs/national_security_strategy_90.pdf>.

⁸⁹ *Defense Strategy for the 1990s: The Regional Defense Strategy*, January 1993, available at <www.informationclearinghouse.info/pdf/naarpr_Defense.pdf>.

⁹⁰ *A National Security Strategy for a New Century* (Washington, DC: The White House, October 1998), 6, available at <www.fas.org/man/docs/nssr-98.pdf>. The December 1999 edition of that document is available at <<http://clinton3.nara.gov/WH/EOP/NSC/html/documents/nssr-1299.pdf>>. “WMD” appears 29 times in the Clinton administration’s 1996 strategy document. See *A National Security Strategy of Engagement and Enlargement* (Washington, DC: The White House, February 1996), available at <www.fas.org/spp/military/docops/national/1996stra.htm>.

⁹¹ President Obama extended the Executive Order for an additional year on November 6, 2009. See “Notice of November 6, 2004: Continuation of Emergency Regarding Weapons of Mass Destruction,” *Federal Register*, November 10, 2009, 58185–58187.

⁹² The White House, “U.S. Policy on Counterterrorism,” Presidential Decision Directive (PDD) 39, June 21, 1995, available at <www.clintonlibrary.gov/_previous/Documents/2010%20FOIA/Presidential%20Directives/PDD-39.pdf>.

⁹³ As, for example, “Letter to Congressional Leaders on the National Emergency Regarding Proliferation of Weapons of Mass Destruction,” November 9, 2000, *Public Papers of the Presidents: William J. Clinton, Book III, October 12, 2000–January 20, 2001* (Washington, DC: GPO, 2002), 2507.

⁹⁴ *The National Security Strategy of the United States of America* (Washington, DC: The White House, September 2002), 14, available at <www.au.af.mil/au/awc/awcgate/nss/nss_sep2002.pdf>.

⁹⁵ Department of State, *National Strategy to Combat Weapons of Mass Destruction*, December 2002, 1, available at <www.state.gov/documents/organization/16092.pdf>. The 2002 *National Security Strategy* has no definition. The closest it comes is in a discussion of proliferation on page 14: "In the past decade North Korea has become the world's principal purveyor of ballistic missiles, and has tested increasingly capable missiles while developing its own WMD arsenal. Other rogue regimes seek nuclear, biological, and chemical weapons as well."

⁹⁶ For example, Office of Homeland Security, *National Strategy for Homeland Security*, July 2002, available at <www.dhs.gov/xlibrary/assets/nat_strat_hls.pdf>. The latter document mentions WMD more than a dozen times, but also mentions "chemical, biological, radiological, and nuclear" weapons more than 3 dozen times.

⁹⁷ *National Security Strategy* (Washington, DC: The White House, May 2010), available at <www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf>.

⁹⁸ For a comprehensive review of the Federal death penalty laws, see Rory K. Little, "The Federal Death Penalty: History and Some Thoughts about the Department of Justice's Role," *Fordham Urban Law Journal*, March 1999, 349–508. In 1972, the U.S. Supreme Court invalidated all existing Federal death penalty laws. The Federal Death Penalty Act of 1994 corrected the constitutional defects that prevented application of most existing Federal death penalty statutes and extended the death penalty to additional criminal acts.

⁹⁹ See Title 18, section 2332a, of the U.S. Code. Its WMD definition originally covered CBRNE, but subsequent amendments excluded chemical weapons when Congress passed the implementing legislation for the Chemical Weapons Convention. The current provision is as follows:

§ 2332a. Use of certain weapons of mass destruction

(a) Offense Against a National of the United States or Within the United States.— A person who, without lawful authority, uses, threatens, or attempts or conspires to use, a weapon of mass destruction (other than a chemical weapon as that term is defined in section 229F)—

(1) against a national of the United States while such national is outside of the United States;

(2) against any person within the United States, and the results of such use affect interstate or foreign commerce or, in the case of a threat, attempt, or conspiracy, would have affected interstate or foreign commerce; or

(3) against any property that is owned, leased or used by the United States or by any department or agency of the United States, whether the property is within or outside of

the United States, shall be imprisoned for any term of years or for life, and if death results, shall be punished by death or imprisoned for any term of years or for life.

(b) Offense by National of the United States Outside of the United States.— Any national of the United States who, without lawful authority, uses, or threatens, attempts, or conspires to use, a weapon of mass destruction (other than a chemical weapon [as that term is defined in section 229F]) outside of the United States shall be imprisoned for any term of years or for life, and if death results, shall be punished by death, or by imprisonment for any term of years or for life.

¹⁰⁰ *United States of America*, Plaintiff-Appellee, *v. Timothy James McVeigh*, Defendant-Appellant, No. 97-1287, United States Court of Appeals for the Tenth Circuit, 153 F.3d 1166; 1998 U.S. App. LEXIS 21877; 50 Fed. R. Evid. Serv. (Callaghan) 541, filed September 8, 1998; and *United States of America*, Plaintiff-Appellee, *v. Terry Lynn Nichols*, Defendant-Appellant, No. 99-1438, United States Court of Appeals for the Tenth Circuit, 2000 U.S. App. LEXIS 33183; 2000 Colo. J.C.A.R. 6738, filed December 18, 2000.

¹⁰¹ “Second Superseding Indictment as to Zacarias Moussaoui,” U.S. District Court, Eastern District of Virginia, available at <<http://notablecases.vaed.uscourts.gov/1:01-cr-00455/DocketSheet.html>>.

¹⁰² *United States of America*, Appellee, *v. Richard C. Reid*, Defendant-Appellant, No. 03-1159, United States Court of Appeals for the First Circuit, 369 F.3d 619; 2004 U.S. App. LEXIS 10453, decided May 27, 2004.

¹⁰³ Cases prosecuted under this act have involved possession of pipe bombs and sawed-off shotguns. *United States of America*, Appellee, *v. Lafi Khalil, Gazi Ibrahim Abu Mezer*, Defendant-Appellants, Docket Nos. 98-1723(L), 99-1134, United States Court of Appeals for the Second Circuit, 214 F.3d 111; 2000 U.S. App. LEXIS 11965; 54 Fed. R. Evid. Serv. (Callaghan) 1016, decided May 31, 2000, reviews an appeal of a conviction under the provisions of § 2332a for possession of a pipe bomb. For an example of a prosecution involving a sawed-off shotgun, see *United States of America*, Plaintiff-Appellee, *v. Kendrick Shafer Doakes*, Defendant-Appellant, No. 03-4713, United States Court of Appeals for the Fourth Circuit, 98 Fed. Appx. 251; 2004 U.S. App. LEXIS 10731, decided June 2, 2004.

A number of additional cases are reported in Federal Bureau of Investigation (FBI), *Terrorism in the United States, 2000-2001*, n.d., <www.fbi.gov/stats-services/publications>: Ronald Mike Denton was indicted for plotting to use explosives to destroy an oil refinery (18), Donald Rudolph was charged with planning to explosively destroy propane storage tanks in California (19), and Abu Doha was charged in connection with the planned millennium bombings of aircraft flying from the Los Angeles airport (21).

¹⁰⁴ Examples of anthrax threats prosecuted using this law are *United States of America*, Appellee, *v. Christopher Martin Cole*, Appellant, No. 03-1079, United States Court of Appeals for the Eighth Circuit, 357 F.3d 780; 2004 U.S. App. LEXIS 1631,

submitted September 10, 2003, filed February 4, 2004; and *United States of America*, Plaintiff-Appellee, v. *Larry D. Reynolds*, Defendant-Appellant, 03-41634, United States Court of Appeals for the Fifth Circuit, 381 F.3d 404; 2004 U.S. App. LEXIS 16474, filed August 10, 2004. In other cases, prosecutors used a different law, 18 U.S.C. 876, which makes it a crime to send a "communication . . . containing any threat . . . to injure the person of the addressee." See, for example, *United States of America v. Rosemary Zavrel*, Appellant, No. 03-1474, United States Court of Appeals for the Third Circuit, 384 F.3d 130; 2004 U.S. App. LEXIS 19587, argued January 26, 2004, filed September 21, 2004.

One of the rare of examples in which the law was applied against individuals actually contemplating use of a WMD (as opposed to threatening with no intention of using) was the indictment of three members of the Republic of Texas, a separatist militia, for plotting to attack government officials with botulism, rabies, or anthrax. See *United States of America*, Plaintiff-Appellee v. *Johnie Wise and Jack Abbott Grebe, Jr.*, Defendant-Appellants, No. 99-40247, United States Court of Appeals for the Fifth Circuit, 221 F.3d 140; 2000 U.S. App. LEXIS 18282, decided July 31, 2000. Another case involved Lawrence A. Maltz, who threatened government officials with biological, chemical, and nuclear devices, and apparently took steps to acquire the materials necessary to produce chemical agents. He ultimately pled guilty to the lesser charge of sending threatening communications. See FBI, *Terrorism in the United States, 1998*, n.d., 6, available at <www.fbi.gov/stats-services/publications>.

¹⁰⁵ Among the other variations, Utah uses CBRNE but excludes any firearms, while California uses CBRN but also includes aircraft and certain other vehicles as WMD. California and North Carolina adopted definitions prior to 9/11. There is a legislative history of the California definition in Kimberly A. Felix, "Crimes: Weapons of Mass Destruction: The Changing Threat and the Evolving Solution," *McGeorge Law Review* 34 (Winter 2003), 391-397.

¹⁰⁶ Department of Army, *Dictionary of United States Army Terms*, AR 320-5 (January 13, 1961, change 1, January 22, 1962), 42; see also, *Dictionary of United States Army Terms*, AR 320-5 (February 28, 1963), 421.

¹⁰⁷ Garthoff, "Banning the Bomb in Outer Space," 35.

¹⁰⁸ State Department, *Foreign Relations of the United States, 1961-1963, Volumes VII, VIII, IX, Arms Control and Disarmament; National Security Policy; Foreign Economic Policy-Microfiche Supplement*, docs. 222 and 223 (Washington, DC: Department of State, 1997).

¹⁰⁹ Joint Publication 1-02, *DOD Dictionary of Military and Associated Terms* (as amended through March 23, 2004). Emphasis added.

¹¹⁰ For background on the document, see Thom Shanker, "A New Strategy Document Calls Attention to the Transition Between War and Peace," *The New York Times*, May 22, 2004, A11.

¹¹¹JCS, *The National Military Strategy of the United States of America: A Strategy for Today; A Vision for Tomorrow*, 2004, 1, available at <www.defense.gov/news/mar2005/d20050318nms.pdf>.

¹¹²Ibid.

¹¹³JCS, *The National Military Strategy of the United States of America: Redefining America's Military Leadership*, 2011, available at <www.defense.gov/news/mar2005/d20050318nms.pdf>.

¹¹⁴Memorandum from Commander, United States Strategic Command, Subject: Establishment of United States Strategic Command (USSTRATCOM) Center for Combating Weapons of Mass Destruction (SCC), August 26, 2005, SM# 218–05.

¹¹⁵Joint Publication 1–02, *DOD Dictionary of Military and Associated Terms* (as amended through April 2010).

¹¹⁶See appendix A, definitions 1 (President Bush), 2 (President Clinton), 4 (Secretary of Defense), 5 (Secretary of Defense), 10 (Arms Control and Disarmament Agency); appendix B, definitions 1 (Weapons of Mass Destruction Control Act) and 2 (U.S. Code); appendix C, definitions 1 (NATO), 3 (Missile Technology Control Regime), 4 (UN), 6 (UN), 7 (Soviet Union), and 8 (Soviet Union). As noted in the appendices, some of these definitions diverge from the *WMD = NBC* definition in small or large ways. Hence, definition 10 in appendix A follows a UN definition (appendix C, definition 5) that allows for the addition of new categories of weapons also capable of causing mass destruction.

¹¹⁷See appendix A, definition 7 (Department of the Army); appendix B, definition 3 (U.S. Code); appendix C, definition 5 (UN); and appendix D, definitions 3 (Arkansas), 4 (California), 5 (District of Columbia), 6 (Florida), 9 (Indiana), 12 (Minnesota), 15 (North Carolina), 19 (Tennessee), and 21 (Vermont). Note that California amended its definition following the 9/11 attacks to include any “aircraft, vessel, or vehicle” that met certain parameters. The North Carolina definition applies only to a “nuclear, biological, or chemical weapon of mass destruction”; that state also has a separate definition for “weapon of mass death and destruction” including only conventional munitions.

¹¹⁸See appendix A, definitions 3 (Joint Staff) and 6 (Department of Homeland Security); appendix B, definitions 4 (U.S. Code) and 5 (Foreign Intelligence Surveillance Act); appendix D, definitions 2 (Arizona), 3 (Arkansas), 5 (District of Columbia), 8 (Idaho), 16 (Ohio), 17 (Pennsylvania), 18 (South Carolina), and 22 (Wyoming).

¹¹⁹See appendix A, definitions 12 (Joint Staff), 13 (U.S. Strategic Command), and 14 (National Security Council).

¹²⁰See appendix A, definitions 9 (CIA) and 11 (Clinton Interagency); appendix C, definition 2 (NATO); appendix D, definitions 13 (Nevada) and 20 (Utah).

¹²¹See appendix A, definition 8 (Chairman of the Joint Chiefs of Staff).

¹²²The U.S. state of Georgia (appendix D, definition 7) considers only nuclear and radioactive weapons as WMD. Most definitions exclude delivery systems, but a few speci-

cally include them (in appendix A, definitions 4 and 5; definitions 3 and 9 include the delivery systems only when it is impossible to separate them from the NBC payload). More typical is the usage found in the Bush administration's December 2002 *National Strategy for Combating Weapons of Mass Destruction* (appendix A, definition 1: "WMD and their delivery means"), which suggests that delivery systems are different but closely related.

¹²³ Appendix A, definitions 3, 7, 9, 12, and 13; appendix C, definition 2.

¹²⁴ Appendix A, definition 11.

¹²⁵ Appendix A, definition 13; appendix C, definition 2.

¹²⁶ United States Strategic Bombing Survey, *Summary Report (Pacific War)* (Washington, DC: GPO, 1946), 16–17.

¹²⁷ *Ibid.*, 22.

¹²⁸ *Ibid.*, 24–25.

¹²⁹ Robert Ross Smith, *Triumph in the Philippines, United States Army in World War II, The War in the Pacific* (Washington, DC: Office of the Chief of Military History, Department of the Army, 1963), 237–239.

¹³⁰ *Ibid.*, 307.

¹³¹ Appendix A, definition 14, and appendix B, definition 3.

¹³² Appendix A, definitions 3, 7, and 13.

¹³³ Appendix A, definition 9.

¹³⁴ Appendix A, definition 12.

¹³⁵ Appendix B, definition 5.

¹³⁶ Appendix C, definition 2.

¹³⁷ The variations in state law include "considerable number of people" (Minnesota), "large number of persons" (Nevada), and "widespread death or serious bodily injury" (Utah). See, appendix D, definitions 12, 13, and 20.

Two definitions limit WMD to weapons capable of "multiple deaths" (Arizona and Arkansas) and one mentions causing "serious bodily injury to multiple victims" (Utah). See appendix D, definitions 2, 3, and 20. These are not synonymous with "mass casualties," given that even two victims meet the required threshold.

¹³⁸ U.S. General Accounting Office (GAO), *Combating Terrorism: Need for Comprehensive Threat and Risk Assessments of Chemical and Biological Attacks* (Washington, DC: GAO, 1999), 6–7.

¹³⁹ James S. Gilmore III, Chairman, Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction, *First Annual Report to the President and the Congress: Assessing the Threat* (Washington, DC: RAND, December 15, 1999), 59.

¹⁴⁰ Joint Publication 1–02, *DOD Dictionary of Military and Associated Terms*, November 8, 2010 (as amended through December 31, 2010), 227, available at <www.dtic.mil/doctrine/new_pubs/jp1_02.pdf>.

¹⁴¹ Available at <<http://www.fema.gov/emergency/nrf/glossary.htm>>.

¹⁴² In this context, the term “catastrophic incident” defines the threshold for intervention by the Federal Government: “it describes special circumstances where the Federal Government exercises a larger role, including incidents where Federal interests are involved and catastrophic incidents where a State would require significant support.” See DHS, *National Incident Management System*, December 2008, 3.

¹⁴³ Brian Michael Jenkins, *International Terrorism: Trends and Potentialities*, Rand Paper Series, P-611 (Santa Monica, CA: RAND, 1978), 11. He explicitly rejected adopting a lower number.

¹⁴⁴ Brian Michael Jenkins, *The Likelihood of Nuclear Terrorism*, Rand Paper Series, P-7119 (Santa Monica, CA: RAND, 1985), 7.

Arbitrarily taking 100 deaths as the criterion, it appears that only a handful of incidents of this scale have occurred since the beginning of the century. Lowering the criterion to 50 deaths produces a dozen or more additional incidents. To get even a meaningful sample, the criterion has to be lowered to 25.

In the late 1970s, RAND research indicated that no terrorist attack in the previous 50 years had resulted in more than 150 fatalities, and that incidents leading to even 20 deaths “were extremely rare.” See U.S. Congress, Office of Technology Assessment, *Nuclear Proliferation and Safeguards*, vol. 2, pt. 1 (Washington, DC: U.S. Congress, Office of Technology Assessment, 1977), table III-A, III-20.

¹⁴⁵ Victor Asal and Andrew Blum, “Holy Terror and Mass Killings? Reexamining the Motivations and Methods of Mass Casualty Terrorists,” *International Studies Review* 7, no. 1 (March 2005), 153–155. Asal and Blum drew on a database created by Robert Johnston, which is available at <www.johnstonsarchive.net/terrorism/wrjp394.html>. Richard A. Falkenrath, Robert D. Newman, and Bradley A. Thayer, *America’s Achilles’ Heel: Nuclear, Biological, and Chemical Terrorism and Covert Attack*, BCSIA Studies in International Security (Cambridge, MA: MIT Press, 1998), 47.

¹⁴⁶ Chris Quillen, “A Historical Analysis of Mass Casualty Bombers,” *Studies in Conflict & Terrorism* 25, no. 5 (September 2002), 279–292; Chris Quillen, “Mass Casualty Bombings Chronology,” *Studies in Conflict & Terrorism* 25, no. 5 (September 2002), 293–302.

¹⁴⁷ Based on a search of the Worldwide Incident Tracking System (WITS), available at <<http://wits.nctc.gov/Main.do>>.

¹⁴⁸ Daniel L. Byman, “The Rise of Low-Tech Terrorism,” *The Washington Post*, May 6, 2007, B3.

¹⁴⁹ Milton Leitenberg, *Deaths in Wars and Conflicts in the 20th Century*, Occasional Paper 29, 3^d ed. (Ithaca, NY: Cornell University, Peace Studies Program, 2006), includes wars and conflicts resulting in more than 1,000 deaths.

¹⁵⁰ *Ibid.*, 1, 79.

¹⁵¹ These figures are far lower than suggested by the most often cited sources but reflect the author's preliminary research into the numbers of casualties caused by use of WMD. Current estimates are that 90,000 to 166,000 people died from the acute effects of the atomic bombing of Hiroshima, while 60,000 to 80,000 died at Nagasaki. See the estimates offered by the Radiation Effects Research Foundation, the organization chartered by the U.S. and Japanese governments to study the long-term public health impact of the bombings of Hiroshima and Nagasaki, available at <www.rerf.or.jp/general/qa_e/qa1.html>. These numbers (150,000 to 246,000) are probably high.

Chemical weapons probably killed no more than 50,000 people during the 20th century. Most chemical weapons deaths occurred in World War I. The most cited survey suggested that 91,198 soldiers died from chemical weapons use in that war, but its figure is far too high. The total comes from Augustin M. Prentiss, *Chemicals in War: A Treatise on Chemical Warfare* (New York, NY: McGraw-Hill Book Company), 653. Robert J.T. Joy, "Historical Aspects of Medical Defense Against Chemical Warfare," in *Medical Aspects of Chemical and Biological Warfare, Textbook of Military Medicine, Part I: Warfare, Weaponry, and the Casualty*, vol. 3, ed. Frederick R. Sidell, Ernest T. Takafuji, and David R. Franz, 101 (Washington, DC: United States Army Medical Research and Materiel Command and Uniformed Services University of the Health Sciences, 1997), is skeptical of Prentiss, but insufficiently so. Preliminary research suggests that the correct figure is probably closer to 35,000.

Use of chemical weapons in other wars caused far fewer fatalities. Generally, the actual numbers are unknown and probably unknowable. Based on preliminary research, total deaths from the most significant uses of chemical agents, including Spanish attacks on the Rif in Morocco during the 1920s, the Italian attacks on the Abyssinians in the 1930s, the Egyptians against the Yemenis in the 1960s, and the Iraqis against the Iranians and the Kurds in the 1980s, were less than 15,000. The Iraqis were responsible for most of them. The total number of deaths associated with Japanese use of chemical agents in China is unknown, although allegations that fatalities amounted to hundreds of thousands are not credible.

The number of fatalities from use of biological weapons is unknown and may be unknowable, but is limited almost totally to Chinese victims of Japanese biological warfare attacks. Virtually all such deaths resulted from Japanese attacks in China and Manchuria during the 1930s and 1940s. The evidence made available so far does not support allegations of hundreds of thousands of deaths. The lowest credible estimate is that 20,000 people died in China from BW attacks, but the actual number could be higher.

¹⁵² The official toll was 42,600 dead, not including 2,000 missing. However, the official Royal Air Force history of the bombing campaign suggests that the true death toll probably was closer to 50,000. Noble Frankland and Charles Webster, *The Strategic Air Offensive Against Germany, 1939–1945, Volume II: Endeavour, Part 4* (London: Her Majesty's Stationery Office, 1961), 260–261.

¹⁵³ United States Strategic Bombing Survey (USSBS), *The Effects of Atomic Bombs on Hiroshima and Nagasaki, Pacific War*, vol. 3 (Washington, DC: GPO, 1946), 33, suggests 83,600 dead and 102,000 injured, while USSBS, *Field Report, Covering Air Raid Protection and Allied Subjects: Tokyo, Japan*, Civilian Defense Division (Washington, DC: GPO, 1947), 3, indicates 83,793 dead and 40,918 injured. E. Bartlett Kerr, *Flames Over Tokyo: The U.S. Army Air Forces' Incendiary Campaign Against Japan* (New York: Donald I. Fine, 1991), 207, indicates that the USSBS accepted fatality figures generated by the Tokyo Metropolitan Police Bureau. Richard Rhodes, *The Making of the Atomic Bomb* (New York: Simon & Schuster, 1986), 599, claims 100,000, but does not give a source.

¹⁵⁴ Robert Ross Smith, *Triumph in the Philippines*, 307. Alfonso J. Aluit, *By Sword and Fire: The Destruction of Manila in World War II, 3 February—3 March 1945* (Manila, Philippines: Bookmark, 1995), 398–399, reports that American officials extrapolated the fatality estimate from the data collected during the siege by Filipino undertakers responsible for burying the dead. It was evident, however, that neighbors and families interred many of those who died and that building rubble buried many of the bodies.

¹⁵⁵ Peter Wyden, *Day One: Before Hiroshima and After* (New York: Simon & Schuster, 1984), 185n. Bush headed the Office of Scientific Research and Development during World War II, which supported the development of napalm at a Harvard laboratory. Bush believed that he had brought napalm to the attention of the U.S. Army Air Force. See Zachary, *Endless Frontier*, 244, 342.

¹⁵⁶ See the discussion in Harigel, “Introduction to Chemical and Biological Weapons,” who argued that neither chemical nor biological weapons should be considered WMD based on the numbers of people actually killed by them, but that most conventional munitions should. This follows the earlier observations of the UN Secretary General, Kofi Annan, *The Millennium Report of the Secretary-General of the United Nations, “We the Peoples”: The Role of the United Nations in the 21st Century* (New York: United Nations, 2000), 52.

The death toll from small arms dwarfs that of all other weapons systems—and in most years greatly exceeds the toll of the atomic bombs that devastated Hiroshima and Nagasaki. In terms of the carnage they cause, small arms, indeed, could well be described as “weapons of mass destruction.”

Note also the comment in the Arms Project of Human Rights Watch and Physicians for Human Rights, *Landmines: A Deadly Legacy* (New York: Human Rights Watch, 1993): “Because of the terrible toll on civilians, land mines can be considered a weapon of mass destruction in slow motion.” This phrase was used nearly a decade later in 2002 in a letter to President George W. Bush from a large group of nongovernmental organizations calling on the United States to accept the Mine Ban Treaty, available at <www.pcsusa.org/washington/issuenet/gs-020318.htm>. It is also on the Web site of the United States Campaign to Ban Land Mines, at <www.banminesusa.org/>. The 1997 Convention

on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (1997 Mine Ban Treaty) bans all antipersonnel mines.

¹⁵⁷ Milton Leitenberg, *Deaths in Wars and Conflicts in the 20th Century*, Occasional Paper 29, 3^d ed. (Ithaca, NY: Cornell University, Peace Studies Program, 2006), 27. According to Leitenberg, while the 800,000 figure is the mostly widely cited figure, in 2004 the government of Rwanda estimated the actual figure was 937,000.

¹⁵⁸ *Landmines: A Deadly Legacy*, 5n3.

¹⁵⁹ Andrés Villaveces, Etienne Krug, Alex Butchart, and Gyanendra K. Sharma, *Small Arms and Global Health: WHO Contribution to the UN Conference on Illicit Trade in Small Arms and Light Weapons, July 9–20, 2001* (Geneva: Injuries and Violence Prevention Dept., Non-communicable Diseases and Mental Health, World Health Organization, 2001).

¹⁶⁰ *Emerging WMD Technologies and the U.S. Air Force*, International Treaties and Agreements Division, USAF HQ/XOS-PI, An Air Force Emerging Issues Project, December 2004, 36–41. The precise formula was $(C/T)K$, where C=casualties, T=target area, and K was a scaling function.

¹⁶¹ *Emerging WMD Technologies and the U.S. Air Force*, 39.

¹⁶² The UN definition differs from CBRN by the addition of the provision allowing the international community to add additional categories of weapons to the list of WMD. However, the international community has regularly reviewed this issue since the late 1970s and has yet to identify any new types of WMD. Hence, the UN definition effectively is equivalent to CBRN. For additional details, see the discussion (starting on page 24) of the failed effort to negotiate a treaty banning WMD.

¹⁶³ Interviews with former National Security Council and DOD officials involved in drafting the document.

¹⁶⁴ The Federal definition is found at Title 18 U.S.C. 2332(a). States that use the same or a similar definition include Alabama, Arizona, Arkansas, Idaho, Kentucky, North Carolina, Ohio, South Carolina, and Utah. The District of Columbia also adopted this definition.

The Clinton Administration made the FBI the Lead Federal Agency for crisis management in responding to a terrorist incident under the provisions of PDD–39. See note 92. However, although the FBI usually leads investigations of violations of Title 18 U.S.C. 2332(a), the agency sometimes relies on alternative definitions. For example, the FBI's 2004 Strategic Plan specifically identifies WMD as equaling CBRN. FBI, *Strategic Plan 2004–2009*, n.d., 27.

¹⁶⁵ DHS, *National Response Plan*, December 2004, 74, available at <www.vet.utk.edu/cafsp/resources/pdf/National%20Response%20Plan.pdf>. The plan explicitly adopts the definition given in Title 18 U.S.C. 2332(a). On the other hand, the White House adopted a more traditional definition in Office of Homeland Security, *National Strategy for Homeland Security*, July 2002, which equates WMD with CBRN weapons. Similarly, the FBI has used WMD in this same way in its terrorism reports.

The FBI's periodic report, *Terrorism in the United States*, ostensibly an annual publication but produced only once since 2001, carefully delineated the difference between WMD terrorism (meaning involvement of CBRN weapons) and other types of terrorist violence (such as bombings). Note, for example, two excerpts from the 1999 edition of the report: "Chemical, biological, and radiological weapons—often collectively referred to as weapons of mass destruction (WMD)—have the potential to kill large numbers of people and cause mass fear." "WMD Cases—those cases primarily dealing with the threatened use or procurement of chemical, biological, or radiological materials with intent to harm—have shown a steady increase since 1995." Both excerpts from FBI, *Terrorism in the United States, 1999, 20 Years of Terrorism, A Special Retrospective Edition*, n.d., 37, available at <www.fbi.gov/stats-services/publications/terror_99.pdf>. The 2000–2001 edition of the report uses the term *weapons of mass destruction* only four times, and three of those are in connection with criminal indictments for activities that did not involve CBRN weapons. By comparison, the 1999 edition mentioned WMD nearly 30 times, always in the sense of CBRN except for two criminal indictments not involving CBRN weapons. See, FBI, *Terrorism in the United States, 2000–2001*, n.d., available at <www.fbi.gov/stats-services/publications>.

¹⁶⁶ Note that the DOD definition only specifies that WMD "can be" CBRN weapons, clearly indicating that some WMD are not CBRN weapons and that not all CBRN weapons are WMD.

¹⁶⁷ CIA, *Comprehensive Report of the Special Advisor to the DCI on Iraq's WMD* (Duelfer Report), September 30, 2004, Vol. III, "Glossary and Acronyms," 15.

¹⁶⁸ The International Action Committee on Small Arms is quite explicit: "Small arms are weapons of mass destruction. . . ." See <www.iansa.org/media/wmd.htm>.

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