NEW AND CONTINUING FORMS OF TERRORISM AND THE DEBATE OVER FUTURE TERRORIST USE OF CBRN WEAPONS

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On 20 March 1995 the first acknowledged terrorist attack employing a chemical warfare agent occurred[1] At approximately 8.00am, in the midst of the Monday morning rush hour, members of an apocalyptic Japanese religious sect placed 11 packages containing sarin nerve gas on five Tokyo subway lines.[2] Almost immediately passengers were affected by the noxious fumes. Some were quickly overcome, while others were afflicted with nose-bleeds, oral hemorrhaging, uncontrollable coughing fits or convulsions. A dozen persons would die and some 5,000 others were reportedly affected.[3] The attack marked a turning point in the history of terrorism. Indeed, it has arguably become the defining incident for all discussion about terrorist use of CBRN (chemical, biological, radiological or nuclear weapons. Subsequent investigations by the Japanese authorities, the press, and the U.S. Congress revealed that Aum had even more sinister terrorist ambitions. Beginning in 1990, cult scientists sought to develop biological weapons, and on a number of occasions, Aum members sprayed biological material in an attempt to kill large numbers of people, including members of the Japanese royal family. Testimony during the trials of the Aum leadership also revealed that the cult had unsuccessfully attacked U.S. military bases in Japan, including the naval installation at Yokosuka.[4]

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[1]As will be discussed later in this paper, Aum was not the first non-state organization to stage a chemical warfare attack. The Japanese cult, however, was the first non-state entity to employ such a weapon against a civilian population.

[2]The Aum sect's goal in staging the nerve gas attack was (among other aims) to lay the foundations for a revolt against the Japanese government that would result in the creation of a new regime dedicated to the service of the sect's founder and leader, Shoko Asahara. For the most complete account of the Aum sect's aims, motivations, and capabilities see David E. Kaplan and Andrew Marshall, *The Cult at the End of the World: The Incredible Story of Aum* (London: Hutchinson, 1996). See also, D.W. Brackett, *Holy Terror: Armageddon in Tokyo* (New York & Tokyo: Weatherhill, 1996).

[3]As will be discussed below, the number of persons *actually* physically affected by the attack is far lower than the 5,000 figure most commonly cited.

[4]Sheryl WuDunn, Judith Miller, and William J. Broad, "How Japan Terror Alerted World," *New York Times*, May 26, 1998. Although most of Aum's original leadership is in jail, the cult remains active in Japan and Russia. Kevin Sullivan, "Japan Cult Survives While Guru is Jailed', *Washington Post*, September 28, 1997.

More than five years later, the attack's implications are still as fiercely debated as they are incompletely understood. Was the incident a harbinger of future terrorist actions or a dramatic aberration? Had a profound taboo in fact been broken by Aum's use of chemical weaponry or were the circumstances, capabilities and resources at the disposal of this particularly idiosyncratic religious group so unique as to defy duplication or emulation by more common and stereotypical terrorist organizations? This chapter considers these questions and related issues raised by the Aum attack within the context of the emergence of the so-called "new terrorism." It also assesses the implications of this development—alongside other key terrorist incidents involving conventional weapons such as the bombings of New York City's World Trade Center in 1993 and of a federal office building in Oklahoma City two years later and the 1998 bombings of the U.S. embassies in Kenya and Tanzania—with respect to current American thinking about, and preparedness for, potential future acts of CBRN terrorism.

THE CONVENTIONAL WISDOM CHALLENGED

Until the Tokyo attack most terrorism experts and other observers of this phenomenon were able to take solace in the belief that terrorists were fundamentally rational.[5] The conventional wisdom which therefore followed was that terrorists would abjure from using CBRN weapons simply because there were few realistic demands that they could make by threatening the use of such indiscriminate weapons. In this context, it was further argued that the terrorists' aims and objectives could just as easily be attained or realized through less extreme measures than the detonation of a nuclear device, the dispersal of radioactive materials[6] or by attacks employing either biological or chemical warfare weapons. In perhaps the most important book written on terrorism in the 1970s, Walter Laqueur clearly echoed this school of thought, concluding unambiguously that, "It can be taken for granted that most of the terrorist groups existing at

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[5]See, for example, the studies conducted by The RAND Corporation during the 1970s for Sandia National Laboratories and, in particular, Gail Bass, Brian Jenkins, et. al, *Motivations and Possible Actions of Potential Criminal Adversaries of U.S. Nuclear Programs* (Santa Monica, CA: The RAND Corporation, R-2554-SL, February 1980).

[6]See, for example, the discussion in Peter deLeon, Bruce Hoffman, et. al, *The Threat of Nuclear Terrorism: A Reexamination* (Santa Monica, CA: The RAND Corporation, N-2706, January 1988), pp. 4-6.

present will not use this option, either as a matter of political principle or because it would defeat their purpose."[7]

The terrorists' perceived obsession with controlling events was also regarded as an important constraint.[8] "Terrorists, like war planners," one unidentified expert opined at a mid-1980s symposium on the subject of nuclear terrorism, "believe they can control what they start . . . and CB [chemical and biological agents] seems too uncontrollable." Hence, this line of argument went, terrorists would most likely eschew weapons that could not be discriminately targeted against their enemies only, and which could therefore also harm their ethnic brethren, co-religionists, or that often declared but indistinctly amorphous constituency, the so-called "people." Of equal significance was the argument that, whereas terrorists had mastered all the components of operations using conventional weapons, they would doubtless be very wary of venturing into such terra incognita as CBRN weapons. And, like most ordinary people, terrorists were believed also to harbor profound fears about dangerous substances which they knew little about and, if handled improperly, would harm or affect them as adversely as it would their intended target.

Even when experts in the 1970s thought about possible terrorist use of weapons of mass destruction the prevailing consensus was that terrorists would axiomatically prefer nuclear or radiological weapons over chemical or biological ones.[9] As Brian Jenkins, perhaps that era's most influential terrorism expert, explained in a paper presented at the same conference cited above:

> *Terrorists imitate governments, and nuclear weapons are in the arsenals of the world's major powers. That makes them 'legitimate.' Chemical and biological weapons also may be found in the arsenals of many nations, but their use has been widely condemned by public opinion and proscribed by treaty, although in recent years the constraints against use seem to be eroding.*[10]

But most importantly, there was a general acceptance of the observation made famous by Jenkins that "Terrorists want a lot of people watching and a lot of people listening and not a lot of people dead."[11] This maxim was applied directly to potential terrorist use of CBRN weapons and

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[7]Walter Laqueur, *Terrorism* (London: Weidenfeld and Nicolson, 1977), p. 231.

[8]Jeffrey D. Simon, *Terrorists and the Potential Use of Biological Weapons: A Discussion of Possibilities* (Santa Monica, CA: RAND, R-3771-AFMIC, December 1989), p. 12.

[9]Robert L. Beckman, "Rapporteur's Summary," in Paul Leventhal and Yonah Alexander (eds.), *Nuclear Terrorism: Defining the Threat* (Washington, D.C.: Pergamon-Brassey's, 1986), p. 13.

[10]Brian M. Jenkins, "Is Nuclear Terrorism Plausible?." in Ibid., p. 31.

in turn was often used to explain the paucity of actual known plots, much less verifiable, incidents. In this context, Jenkins argued in a 1975 paper assessing potential terrorist use of radiological or nuclear weapons that

> Scenarios involving the deliberate dispersal of toxic radioactive material . . . do not appear to fit the pattern of any terrorist actions carried out thus far . . . . Terrorist actions have tended to be aimed at producing immediate dramatic effects, a handful of violent deaths—not lingering illness, and certainly not a population of ill, vengeance-seeking victims . . . . If terrorists were to employ radioactive contaminants, they could not halt the continuing effects of their act, not even long after they may have achieved their ultimate political objectives. It has not been the style of terrorists to kill hundreds or thousands. To make hundreds or thousands of persons terminally ill would be even more out of character.[12]

This was also the conclusion reached by a contemporary of Jenkins', the noted authority on sub-national conflict, J. Bowyer Bell. He too had dismissed the possibility that terrorists might target a commercial nuclear power plant in hopes of engineering a meltdown or large-scale atmospheric release of radioactive materials on similar grounds of political expediency and logical instrumentality. "[T]here is no evidence," Bell wrote in 1978,

> that terrorists have any interest in killing large numbers of people with a meltdown. The new transnational television terrorists want media exposure, not exposure of the masses to radioactive fallout. And finally, the technological capacities of organizations with sufficient military skills to launch an attack . . . are not great. The mix of motive, military and technological skills, resources, and perceived vulnerability simply does not exist.[13]

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[11]Brian Michael Jenkins, "International Terrorism: A New Mode of Conflict" in David Carlton and Carlo Schaerf (eds.), *International Terrorism and World Security* (London: Croom Helm, 1975), p. 15.

[12]Brian Michael Jenkins, *Will Terrorists Go Nuclear?* (Santa Monica: CA, P-5541, November 1975), pp. 6-7.pp. 6-7.

[13]J. Bowyer Bell, *A Time of Terror: How Democratic Societies Respond to Revolutionary Violence* (New York: Basic Books, 1978), p. 121.

Despite the events of the mid-1980s—when a series of high-profile and particularly lethal suicide car and truck-bombings were directed against American diplomatic and military targets in the Middle East (in one instance resulting in the deaths of 241 Marines)—many analysts saw no reason to revise these arguments. In 1985, Jenkins, for example, reiterated that, "simply killing a lot of people has seldom been one terrorist objective . . . Terrorists operate on the principle of the minimum force necessary. They find it unnecessary to kill many, as long as killing a few suffices for their purposes."[14] In the revised version of his earlier work, Laqueur similarly emphasized that

> Groups such as the German, Italian, French, Turkish or Latin American terrorists are unlikely to use nuclear, chemical or bacteriological weapons, assuming that they have any political sense at all—an assumption that cannot always be taken for granted. They claim to act on behalf of the people, they aspire to popular support, and clearly the use of arms of mass destruction would not add to their popularity.[15]

For almost a quarter of a century, therefore, the conventional wisdom held that terrorists were not interested in killing, but in publicity. Violence was employed less as a means of wreaking death and destruction than as a way to appeal to and attract supporters, focus attention on the terrorists and their causes or attain tangible political aims and concessions—for example, the release of imprisoned brethren, some measure of political autonomy or independence for an historical homeland or a change of government. Terrorists, it was therefore argued, themselves believed that only if their violence were calculated or regulated would they be able to obtain the popular support or international recognition they sought or achieve the political ends that they desired.

Ever since the Tokyo incident, however, these long-standing assumptions have increasingly been called into question by terrorist attacks that have not only involved CBRN weapons but that have caused large numbers of casualties—such as the World Trade Center and Oklahoma City bombings and more recently, the massive explosions at the U.S. embassies in Kenya and Tanzania. As these and other particularly lethal incidents in other parts of the globe have demonstrated, the more traditional and familiar types of ideological, ethno-nationalist and separatist organizations who dominated terrorism for the past thirty years or more—and upon

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[14]Brian Michael Jenkins, *The Likelihood of Nuclear Terrorism* (Santa Monica, CA: The RAND Corporation, P-7119, July 1985), p. 6.

[15]Walter Laqueur, *The Age of Terrorism* (Boston & Toronto: Little, Brown, 1987), p. 319.

whom many of our most fundamental assumptions about terrorists and their behavior are based—have now been joined by a variety of arguably different terrorist entities with less readily comprehensible nationalist or ideological motivations. This new generation of terrorists not only embrace far more amorphous religious and millenarian aims, but in some cases are themselves less cohesive organizational entities, with a more diffuse structure and membership.[16]

The emergence of obscure, idiosyncratic millenarian movements—such as Aum; the militantly anti-government, Christian white supremacist militias in the United States, that are fuelled by a volatile mixture of religious, racial and seditious dicta;[17] and the shadowy, trans-national extremist Islamic movement that has been linked to the World Trade Center bombing, the attacks in 1995 and 1996 on U.S. military targets in Saudi Arabia, and the embassy bombings in East Africa—represent a different and potentially more lethal threat than the above-mentioned more familiar, traditional terrorist adversaries. As former U.S. Senate staff member John Sopko explained in one of the first analytical efforts to map the contours of the "new face of terrorism" and assess the implications of Aum's activities on future potential terrorist use of CBRN weapons:

> *. . . past assumptions that those in possession of weapons of mass destruction are rational, informed opponents who calculate the risks and benefits before using such force do not apply when these groups are driven by 'divine intervention,' messianic leadership or suicidal instincts. As one FBI*

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[16]See, for example, the analysis of the international terrorist campaign allegedly orchestrated by Osama bin Laden in Neil King, Jr., "Moving Target: Fighting Terrorism Is Far More Perilous Than It Used to Be," *Wall Street Journal Europe*, 25 August 1998. This type of loose, networked (as opposed to hierarchical) organization also reflects the "Leaderless Resistance" strategy advocated by the Christian far-right, paramilitary white supremacist movement in the United States today. "Leaderless Resistance," also called "phantom cell networks," lays down a strategy of violence perpetrated by "autonomous leadership units" (e.g., cells) operating independently of one another that, it is intended, will eventually join together to create a chain-reaction leading to a nation-wide, white supremacist revolution. "Leaderless Resistance" is described in the white supremacist adventure novel, *Hunter*, written by William Pierce (under the pseudonym Andrew MacDonald) and published by National Vanguard Books in Hillsboro, Virginia. *Hunter,* it should be noted, is the sequel to *The Turner Diaries* (which Pierce/MacDonald also wrote)—— the novel described by the FBI as the "bible" of the American white supremacist movement and is thought to have inspired Timothy McVeigh's attack on the Federal office building in Oklahoma City.

[17]The white supremacists' expressed *raison d'être*--racism, anti-Semitism and sedition--is justified and legitimized on theological grounds. It is at once a political and grassroots religious movement. The cement that bonds together this seemingly diverse and disparate collection of citizen militias, tax resistors, anti-federalists, bigots and racists is the white supremacist religious theology espoused by the Christian Identity movement. The basic tenets of the Identity movement include the beliefs that Jesus Christ was not a Jew, but an Aryan; that the Lost Tribes of Israel are not composed of Jews but of blue-eyed Aryans; that Anglo-Saxons and not Jews are the true chosen people; and that the United States is the Promised Land. See Bruce Hoffman, *Recent Trends and Future Prospects of Terrorism in the United States* (Santa Monica, CA: The RAND Corporation, R-3618, May 1988), pp. 26-27.

terrorist specialist notes, 'it is extremely difficult to deal with someone not playing with a full deck of cards.'[18]

Such developments as these have already prompted at least some of terrorism's leading analysts to revise their previous thinking on the WMD issue. In his seminal 1996 article, which defined the new era of terrorism in the post-cold war world, Laqueur observed that, "Proliferation of weapons of mass destruction does not mean that most terrorist are likely to use them in the foreseeable future, but some almost certainly will, in spite of all the reasons militating against it."[19] This point was even more forcefully presented in the book that followed. "In an earlier work I warned against overrating the danger of terrorism," Laqueur writes,

which was neither a new phenomenon nor as politically effective as we are often led to believe. . . . While I decried the idea that terrorism was steadily growing into a global threat, I also wrote that it could become one as the result of technological developments.

The ready availability of weapons of mass destruction has now come to pass, and much of what has been thought about terrorism, including some of our most basic assumptions, must be reconsidered. The character of terrorism is changing, any restraints that existed are disappearing, and, above all, the threat to human life has become infinitely greater than it was in the past.[20]

However, even if terrorism has changed fundamentally as the preceding discussion has described, it still evidences remarkable continuities—and these continuities are arguably just as significant and compelling as the changes we now see. Indeed, the emergence of these new adversaries with new motivations and new rationales has in fact yet to produce any of the anticipated changes in either terrorist weaponry or tactics that were predicted to follow in the wake of the Aum nerve gas attack. Instead, as has been the case for more than a century, the gun and the bomb remain the terrorists' main weapons of choice. Thus, as fanatical or irrational as even this new breed of terrorists may seem, like their more traditional counterparts, they have also remained operationally conservative: adhering to the same familiar and narrow tactical repertoire that they both have mastered and equally importantly believe

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[18]Sopko, "The Changing Proliferation Threat," p. 15.

[19]Walter Laqueur, "Postmodern Terrorism," *Foreign Affairs*, vol. 75, no. 5 (September-October 1996), p. 34.

[20]Walter Laqueur, *The New Terrorism: Fanaticism and the Arms of Mass Destruction* (New York & Oxford: Oxford University Press, 1999), p. 7.

maximizes their likelihood of success. For this reason, future terrorist use of CBRN weapons for purposes of achieving either mass casualties or destruction may be far less certain than is now commonly assumed.

THE NEW TERRORISM AND ITS PUTATIVE IMPLICATIONS

Admittedly, we once knew who the terrorists were and what they wanted. In the past, terrorism was practiced mostly by a group of individuals belonging to an identifiable organization with a clear command and control apparatus who had a defined set of political, social or economic objectives. Radical leftist organizations such as the Japanese Red Army, Germany's Red Army Faction, Italy's Red Brigades as well as ethno-nationalist terrorist movements like the Abu Nidal Organization, the Irish Republican Army (IRA), and the Basque separatist group, ETA (Basque Fatherland and Liberty), reflected this stereotype of the traditional terrorist group. They issued communiqués taking credit for—and explaining—their actions and however disagreeable or distasteful their aims and motivations were, their ideology and intentions were at least comprehensible.

Most significantly, however, these familiar terrorist groups engaged in highly selective and mostly discriminate acts of violence. They bombed various “symbolic” targets representing the source of their animus, such as embassies, banks, national airline carriers, etc. or they kidnapped and assassinated specific persons whom they blamed for economic exploitation or political repression. Their purpose was generally to attract attention to themselves and their causes.

Finally, these groups were often numerically constrained. They mostly comprised relatively small numbers of persons. Neither the Japanese Red Army nor the Red Army Faction, for example, ever numbered more than 20 to 30 hard-core members. The Red Brigades were hardly larger, with a total of fewer than 50 to 75 dedicated terrorists. Even the IRA and ETA could only call on the violent services of perhaps some 200-400 activists while the feared Abu Nidal Organization was limited to some 500 men-at-arms at any given time.

In contrast to the stereotypical terrorist group of the past, this new generation of terrorists show signs of having several important organizational changes. These in turn have affected their operations, decision-making and targeting. Rather than belonging to the pyramidal, hierarchical organizational structures that were dominant among terrorist organizations during the 1970s and 1980s, terrorists are now increasingly part of far more amorphous, indistinct, and broader movements. These movements also tend to operate on a linear rather than hierarchical basis.

Hence, instead of the classic cellular structure that was common to previous generations of terrorist organizations, some contemporary groups are more loosely connected or indirectly linked through networks. These networks are comprised of both professional members (e.g., full-time terrorists) and amateurs (hangers-on, supporters, sympathizers and would-be terrorists who may lack the expertise or experience of their more established counterparts).

The absence of any existing, publicly identified central command authority is significant. First, it means that a state that has fallen victim to a terrorist attack will not be able to find a useful target to hit in retaliation. This may serve to remove any inhibitions on the terrorists' part against inflicting widespread, indiscriminate casualties. Individual networks thus could have greater freedom and independence in tactical decisions than traditional terrorist cells. Accordingly, this particular type of loosely structured terrorist group may pose a very different and potentially far more lethal threat than that posed by more familiar, traditional, terrorist adversaries. Second, the anonymity intrinsic to this type of operation coupled with the lack of a discernible organizational structure with a distinguishable command chain behind the attackers is deliberately designed to prevent easy identification and also facilitate the perpetrators' escape and evasion.

Finally, many terrorist movements today have less easily defined aims or identified objectives. Some appear to be motivated by unswerving hostility towards the West in general and the United States in particular or a desire for revenge and retaliation that is frequently fuelled by compelling religious imperatives and justifications rather than abstract political ideologies. In the past, the familiar, predominantly secular terrorist groups mostly claimed credit for and explained their violent acts. In contrast, the most heinous and lethal attacks perpetrated by terrorists over the past decade—which have usually been directed against civilians—have gone unclaimed.[21] By

[21]These include, among other incidents, the series of car bombings that convulsed Bombay in 1993, killing 317 persons; the huge truck bomb that destroyed a Jewish community center in Buenos Aires in 1994, killing 96; the 1995 bomb that demolished the Alfred P. Murrah Building in Oklahoma City, leaving 168 dead; the 1998 bombings of the American embassies in Kenya and Tanzania; and, the series of bombings of apartment buildings in Dagestan and Moscow last August and September. Indeed, the 1988 inflight bombing of Pan Am 103 is an especially notorious example. Although we know—as a result of what has been described as the "most extensive criminal investigation in history"—that the two Libyan government airline employees, who are currently being tried in The Hague, were identified and accused of placing the suitcase containing the bomb that eventually found its way onto the flight, no believable claim of responsibility has ever been issued. Hence, we still don't know why the aircraft was targeted or who ordered or commissioned the attack. For a more detailed study of this issue see, Bruce Hoffman, "Why Terrorists Don't Claim Credit," *Terrorism and Political Violence*, vol. 9, no. 1 (Spring 1997), pp. 1-6.

maintaining their anonymity, terrorists may believe that they are able to capitalize further on the fear and alarm intrinsically generated by their violence.

This array of changes, as previously noted, in turn raised serious concerns about the continued relevance of much of the conventional wisdom on terrorism—particularly as it pertains to potential future terrorist use of CBRN weapons. Upon closer examination, however, these specific concerns have yet to be validated—despite fears, arguments and spending to the contrary.

First, the new era of terrorism, supposedly more bloody and lethal than before has yet to materialize—at least so far as Americans and America are concerned. Terrorism, as reported by such authoritative sources as the U.S. State Department's annual *Global Patterns of Terrorism* publications may indeed has become more lethal. However, its actual effects on U.S. citizens and interests—the focus of the "new terrorism's" animus—is somewhat less conclusive. For example, a total of 87 Americans were killed in 40 attacks perpetrated against U.S. targets overseas throughout the 1990s. Approximately six times as many Americans (571), however, were killed by terrorists in the 69 attacks that occurred the previous decade.[22] In this respect, there is no doubt that terrorism remains a threat to Americans travelling or working abroad and whatever the number it is incontestably tragic that any American should lose his or her life to violence or be wantonly harmed and injured simply because of the nationality of the passport they carry, the uniform they wear, or the job that they perform. But the fact remains that, so far as terrorism is concerned, the world was arguably a far more dangerous place for Americans in the 1980s, when on average eight Americans were killed per attack, than during the 1990s when the supposedly more lethal "new terrorism" on average claimed the lives of two persons.

Nor is the situation terribly different in the U.S. itself. For instance, the anti-federalist, white supremacist revolution that the Murrah building bomber, Timothy McVeigh, and his identified confederates hoped both to inspire and provoke has yet to materialize. While the seditious motivations that lay behind the attack doubtless still exist in parts of the U.S., they nonetheless have not gained the widespread currency and popularity that at the time was perhaps feared. In this respect, the wave of domestic terrorism and violence that many worried would

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[22]Statistics compiled by the Bureau of Diplomatic Security, U.S. State Department. See also, Office of the Coordinator for Counterterrorism, *Patterns of Global Terrorism 1999* (Washington, D.C., U.S. Department of State Publication 10687, April 2000), p. 1.

break across the country in the wake of the Oklahoma City tragedy has not come to pass. In fact, according to FBI statistics, far fewer terrorist incidents were recorded in the U.S. during the 1990s than during the previous decade. The FBI lists a total of 220 domestic terrorist acts as having been perpetrated between 1980 and 1989; compared to a mere 29 incidents for the period 1990 to 1998 (the last year for which published data is available from the FBI). Admittedly, 176 persons were killed by terrorists in the U.S. during the 1990s: a figure nearly seven times the 1980s total of just 26 persons. However, this tragic death toll is the result of four out of only 29 terrorist incidents: and of the four incidents, it was one especially heinous act—the Murrah building bombing—which accounts for the overwhelming majority—e.g., 95 percent—of the total.[23] Again, there is no doubt that terrorism remains a threat to the lives and well-being of Americans in our own country, but it must kept in mind that the *actual* number of terrorist incidents—as opposed to the hundreds of hoaxes, often involving alleged chemical and biological agents, that the FBI and other law enforcement and public safety agencies now routinely respond to and which arguably have fueled our perception of a burgeoning domestic terrorist threat—remain remarkably few and those that cause fatalities still less.[24]

None of the above, it should be emphasized, is meant to suggest that the U.S. should become complacent about the threat of terrorism (domestic or international) or in any way relax our vigilance either at home or abroad. Terrorism poses—and will likely to continue to pose—a serious threat to Americans and American interests both in this country and overseas. Nonetheless, it equally clear that there has been a tendency to exaggerate the dimensions of the threat and the *strategic* impact that terrorist violence can actually have on a nation like the U.S. By overreacting and falling prey to a sense of acute fear and intimidation, we both inflate the terrorists' power in ways that are both counterproductive and at times are somewhat divorced

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[23]Statistics compiled from Terrorist Research and Analytical Center, Terrorism Section, Criminal Investigative Division, *FBI Analysis Of Terrorist Incidents In The United States* (Washington, D.C.: U.S. Department of Justice, Federal Bureau of Investigation, 1984), p. 10; idem., *Terrorism in the United States, 1982-1992* (Washington, D.C.: U.S. Department of Justice, Federal Bureau of Investigation, 1993), p. 8; Counterterrorism Threat Assessment and Warning Unit, National Security Division, *Terrorism in the United States 1997* (Washington, D.C.: U.S. Department of Justice, Federal Bureau of Investigation, 1998), pp. 22-23; and, idem., *Terrorism in the United States 1998* (Washington, D.C.: U.S. Department of Justice, Federal Bureau of Investigation, 2000), pp. 3 & 6.

[24]See Statement for the record before the Senate Select Committee on Intelligence, January 28, 1998, http//:www.fbi.gov/pressrm/congress/ congress98/threats.htm of FBI Director Louis J. Freeh, p. 6; Statement of Robert J. Burnham, Chief, Domestic Terrorism Section before the U.S. House of Representatives Subcommittee on Oversight and Investigations, May 19, 1999, p.1 at http//:www.fbi.gov/pressrm/congress/congress99/ epa.htm; and, Statement for the Record of Mrs. Barbara J. Martinez, Deputy Director, National Domestic Preparedness Office before the U.S. House of Representatives Transportation and Infrastructure Committee, Subcommittee on Oversight, Investigations, and Emergency Management, June 9, 1999, p.1 at http//:www.fbi.gov/pressrm/congress/congress99/ comterr.htm.

from the reality.[25] Terrorism is fundamentally a form of psychological warfare and to foment widespread fear and intimidation is essential to the terrorists' purpose. Accordingly, by succumbing to their threats and braggadocio and, failing to distinguish their inflated rhetoric from genuine intentions, much less actual capabilities, we play into the terrorists' hands. We thereby risk making hard policy choices and budgetary allocations based perhaps on misperception and misunderstanding rather than on hard analysis built on empirical evidence. Indeed, the incorrect lessons derived from the Aum experience in general and the 1995 nerve gas attack in particular illustrate the dangers of responding emotionally and viscerally rather than soberly and calmly to such terrorist threats.[26]

THE REAL LESSONS OF AUM

Let us grant, for the sake of argument, the possibility that the motives of terrorists are changing and that they may come to contemplate ever more bloody and heinous acts including the use of CBRN weapons. Even supposing this is an accurate reading of events (although the empirical evidence cited above seems to belie this), these trends do not necessarily imply that terrorists currently possess (as it is frequently portrayed) either the requisite scientific knowledge or technical capabilities to implement their violent ambitions. In this respect, even if it is as easy as some say for terrorists to culture anthrax spores or brew up a concoction of deadly nerve gas,[27] there are other difficulties that stand in their way. The effective dissemination or dispersal of these viruses and poisons still presents serious technological hurdles that greatly inhibit their effective use. Indeed, the same Japanese religious sect that is most directly responsible for precipitating our current obsession with terrorism and CBRN weapons is precisely a case in point.

The Aum Shinrikyo, it must be said, was by no means a typical terrorist group. The archetypal terrorist organization is composed of a handful of men and women, with limited

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[25]Our preoccupation with Osama bin Laden and attendant—however inadvertent—lionization of his stature and power is arguably such a case in point. Despite his vast wealth and alleged legions of minions, it is hardly likely that bin Laden could ever hope to vanquish the U.S. military, overthrow our government or achieve any fundamental political changes in American foreign or domestic policy. Yet, this single individual arguably is held in fear and accorded a stature far in excess of what logic would dictate.

[26]Among the first and most important works to incisively analyze the true implications of Aum and the 1995 nerve gas attack are: David Rapoport, "Terrorism and Weapons of the Apocalypse," Georgetown National Security Studies Quarterly (Summer 1999), pp. 49-67; Ehud Sprinzak, "The Great Superterrorism Scare," *Foreign Policy*, no. 112 (Fall 1998), pp. 110-125; and, Milton Leitenberg, "Aum Shinrikyo's Efforts to Produce Biological Weapons: A Case Study in the Serial Propagation of Misinformation," *Terrorism and Political Violence*, vol. 11, no. 4 (Winter 1999), forthcoming.

[27]It should be noted that the ease with which even primitive chemical or biological weapons that that are truly effective can be fabricated is still the subject of intense and highly contentious debate.

training, technical capabilities and resources. Aum defies this pattern. It was a religious movement with upwards of fifty thousand members and offices in New York, Germany, Australia and Sri Lanka in addition to Japan and Russia. Aum had assets estimated to be in the neighborhood of $1 billion—and at least certainly in the hundred millions. It specifically recruited graduates with scientific and engineering degrees from Japan's leading universities and provided them with state of the art laboratories and lavish budgets with which to fund the group's variegated weapons R&D programs. While its biological weapons research was comparatively modest—its research never employed more than perhaps 20 persons are most[28]—as many as 80 scientific personnel were specifically detailed to work on the group's chemical weapons programs. Indeed, when police raided the sect's laboratories following the nerve gas attack, for example, they found enough sarin to kill an estimated 4.2 million persons.[29] In addition, Aum had either already produced or had plans to develop other nerve powerful nerve agents such as VX, tabun and soman; chemical weapons such as mustard gas and sodium cyanide; and deadly biological warfare pathogens that included anthrax, the highly contagious disease known as Q-fever[30]—and possibly the deadly Ebola virus as well.[31] Aum's most ambitious project, however was doubtless its efforts to develop a nuclear capability. To this end, the group had purchased a 500,000 acre sheep station in a remote part of Western Australia. There, they hoped to mine uranium that was to be shipped back to Aum's laboratories in Japan where scientists using laser enrichment technology would convert it into weapons-grade nuclear material.[32]

The group had also assembled an impressive panoply of conventional weaponry. Aum is believed to have purchased large quantities of small arms from Russian sources and to have been in the market for advanced weaponry such as tanks, jet fighters, surface-to-surface rocket launchers, and even a tactical nuclear weapon. Aum succeeded in obtaining a surplus twin-turbine Mi-117 helicopter—complete with chemical spray dispersal devices. The group also planned——and had gone as far as to acquire sophisticated robotic manufacturing devices—to

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[28]Telephone interviews by RAND research staff with Professor Anthony Tu, 21 July 1999, and Milton Leitenberg, 16 July 1999.

[29]Richard Lloyd Parry, "Sect's poisons "could kill 4.2m'," *The Independent on Sunday* (London), 26 March 1995; and, Andrew Pollack, "Japanese Police Say They Found Germ-War Material at Cult Site," *New York Times*, 29 March 1995.

[30]Reuters, "Aum Cult gas Cache," *International Herald Tribune* (Paris), 13 December 1996. See also, National (Japanese) Police Agency, "Aum Shinrikyo: An Alarming Report on the Terrorist Group's Organization and Activities," *Shoten* (Tokyo), no. 252 (1195), pp. 10-12; Kaplan and Marshall, *The Cult at the End of the World*, pp. 10, 95-97, 121-125, 151, 211-21 & 232.

[31]Following an outbreak of Ebola in Zaire in 1992, Asahara and 40 followers traveled to that country ostensibly on a humanitarian aid mission. Associated Press and Agence France-Presse, "Cult 'studied deadly Ebola virus'," *New York Times*, 25 April 1995. See also, Kaplan and Marshall, *The Cult at the End of the World*, pp. 96-97.

[32]Kaplan and Marshall, *The Cult at the End of the World*, pp. 85, 126-133; 190-192 & 208; and, Sopko, "The Changing Proliferation Threat," p. 13.

produce at least a 1,000 knock-off versions of Russia's world-famous AK-47 assault rifle along with one million bullets. Finally, the sect had determined how to the manufacture TNT and the central component of plastic explosives, RDX.[33]

However, despite Aum's considerable financial wealth, the technical expertise that it could call upon from its well-educated members and the vast resources and state-of-the-art equipment at their disposal; the group could not effect even a single truly successful chemical or biological attack. On at least nine occasions the group attempted to disseminate botulinum toxin (*Clostridium botulinum*) or anthrax (*Bacillus anthracis*) using aerosol means: each time they failed either because the botulinum agents they grew and enriched were not toxic or the mechanical sprayers used to disseminate the anthrax spores became clogged and hence inoperative.[34]

Even the group's comparatively more successful sarin attack on the Tokyo subway would be laughable if not for the tragic deaths of 12 persons and the physical and psychological harm caused to many more victims. For all its sophisticated research and development, the best means the group could find to disseminate the nerve gas was in plastic trash bags that had to be poked open with sharpened umbrella tips in order to release the noxious mixture.[35] And for all the fear generated by this attack, it was far from achieving mass destruction or even mass casualties. New research has revealed that of the five thousand persons who received medical treatment in the aftermath of the subway attack, the vast majority —e.g., 73.9 percent—were suffering from shock, emotional upset or evidenced some psychosomatic symptom.[36] That the Aum group, even with all its unique advantages, could do no more harm than this, speaks volumes about the challenges facing any less well endowed terrorist organization.[37]

In sum, upon further examination and analysis, Aum's experience suggests—however counter-intuitively or contrary to popular belief—the immense technological difficulties faced by any non-state entity in attempting to

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[33]See Kaplan and Marshall, *The Cult at the End of the World*, pp. 76, 88, 107-112, 151, & 190-193; James K. Campbell, "Excerpts From Research Study 'Weapons of Mass Destruction and Terrorism: Proliferation by Non-State Actors'," Terrorism and Political Violence, vol. 9, no. 2 (Summer 1997), pp. 35-37; Ron Purver, "Chemical Terrorism In Japan" (unpublished paper by the Canadian Security Intelligence Service, Ottawa, Canada June 1995), p. 15; and, National Police Agency, *Shoten* (252), "Aum Shinrikyo: An Alarming Report on the Terrorist Group's Organization and Activities," 1995, p. 10.

[34]Two attempts were made with anthrax and seven with botulinum toxin. W. Seth Carus, *Bioterrorism and Biocrimes: The Illicit Use of Biological Agents in the 20th Century* (Washington, DC: Center for Counterproliferation Research, National Defense University, March 1999), p. 62.

[35]Brackett, *Holy Terror: Armageddon in Tokyo*, pp. 126 & 129.

[36]Anthony G, Macintyre, M.D., et al., "Weapons of Mass Destruction: Events with Contaminated Casualties—Planning For Health Care Facilities, *JAMA (Journal of the American Medical Association)*, no. 263 (January 2000), pp. 242-249.

weaponize and effectively disseminate chemical and biological weapons.[38] It also provides striking refutation of the argument voiced with increasing frequency in recent years of the ease with which such weapons can be fabricated and made operational. Public officials, journalists and analysts, for example, have repeatedly alleged that biological attacks in particular are relatively easy for terrorists to undertake. According to one state emergency management official, biological weapons "are available—and easy to make . . . .One does not need a degree in microbiology to make this work, being able to read is enough . . . . It's not like enriching uranium."[39] Similarly, both the White House and senior FBI officials have argued that the information needed to develop chemical and biological weapons can be readily obtained from the Internet and other open sources.[40] Such claims, however, do not square with the facts. Both the Aum experience and a considerable body of subsequent research and analysis make it clear that fabrication and dissemination of such weapons is not easy.[41] This has been corroborated by John Lauder who, as the national intelligence officer responsible for non-proliferation issues is the country's senior intelligence analyst concerned with this particular issue. "While popular culture can explore the potential BW threat, actually

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[37] Leitenberg, "The Experience of the Japanese Aum Shinrikyo Group and Biological Agents," forthcoming.

[38]Indeed, this same point can also be made of the formidable hurdles faced by many established states in developing their own effective weapons programs in the same areas of chemical, biological and nuclear warfare.

[39]Quoted in Grant Sasek, "Officials in State Warn of Biological Terrorism," *Helena Independent Record* (http://billinsgazette.com/region.990125_reg009.html).

[40]See, for example, the White House, "Fact Sheet on Combating Terrorism: Presidential Decision Directive 62," May 22, 1968, accessed at http://cns.miis.edu/research/cbw/pdd-62.htm, which states that, "easier access to sophisticated technology means that the destructive power available to terrorists is greater than ever. Adversaries may thus be tempted to use unconventional tools, such as weapons of mass destruction, to target our cities and disrupt the operations of our government"; Statement for the record before the Senate Select Committee on Intelligence, 28 January 1998, http://www.fbi.gov/congress/98archives/threats.htm; of FBI Director Louis J. Freeh: "The ease of manufacturing or obtaining biological and chemical agents is disturbing. Available public source material makes our law enforcement mission a continuous challenge."; and, Statement of Robert J. Burnham, Chief, Domestic Terrorism Section before the U.S. House of Representatives Subcommittee on Oversight and Investigations, 19 May 1999. http://www.fbi.gov/pressrm/congress/bioleg3.htm;: "literature containing recipes and modes of dissemination are available through 'how to' literature and over the Internet."

[41]See, for example, the more detailed analysis summarized in *First Annual Report to The President and The Congress of the Advisory Panel To Assess Domestic Response Capabilities For Terrorism Involving Weapons of Mass Destruction: I. Assessing the Threat*, 15 December 1999 at http://www.rand.org/organization/nsrd/terrpanel, pp. 20-34.

developing and using an effective biological weapon poses certain technological challenges."[42]

ANOTHER COUNTERINTUITIVE CASE: THE TAMIL TIGERS

Equally as significant, there may not be the linear process of escalation inexorably leading from increasingly heightened levels of bloodshed to CBRN weapons use that is sometimes assumed to exist in terrorist organizations. The reasons why some terrorist groups embark on new and appreciably bloodier campaigns of violence, while others adhere to very narrow tactical repertoires that axiomatically inhibit their potential for wide-spread death and destruction, remains a conspicuous and inconclusively analyzed area of terrorism research. Nonetheless, the view that once embarked upon escalation, a terrorist group becomes inevitably locked into some upward spiral leading unerringly to CBRN weapons, may be just as misplaced as the misconceptions previously identified concerning the Aum archetype. Indeed, even though the empirical data on both terrorist use and more so on *contemplated use* of CBRN weapons is scarce, there is one salient example of a non-linear process: whereby a group employed a chemical weapon as part of an escalated campaign of violence, but then subsequently abjured from its use for internal, tactical—rather than the commonly assumed external (e.g., local and international opprobrium, fear of harming one's own brethren, etc.)— reasons.

In this respect, it was not Aum but the Liberation Tigers of Tamil Eelam (or LTTE—often referred to as the "Tamil Tigers") who were the first non-state insurgent, guerrilla or terrorist organization to stage a chemical weapons attack.[43] The LTTE, however, is not the stereotypical, militant religious organization whom one might expect would be most likely to employ a CBRN weapon, but an ethno-nationalist separatist group fighting for the creation of an independent Tamil state on the island nation of Sri Lanka. In June 1990, the group used chlorine gas in its assault on a besieged Sri Lankan Armed Forces (SLAF) camp at Kiran in Sri Lanka's Batticaloa district.[44] The attack—like Aum's five years later—was relatively crude: thus again suggesting

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[42]U.S. Congress, "Statement by Special Assistant to the DCI for Nonproliferation John A. Lauder on the Worldwide Biological Warfare Threat," House Permanent Select Committee on Intelligence, 3 March 1999, http://www.cia.gov/cia/public_affairs/speeches/lauder_speech_030399.html

[43]In October 1997, Secretary of State Madeleine Albright formally designated 30 foreign groups as terrorist organizations under the Antiterrorism and Effective Death Penalty Act of 1996. Among these is the LTTE (see Office of the Coordinator for Counterterrorism, *Patterns of Global Terrorism 1997.* Washington, D.C., U.S. Department of State Publication 10535, April 1998, pp. 4 & 66-68). *It should be noted in the context of this paper that, by applying this description to the LTTE, the author is in no way either minimizing nor denigrating the suffering of the Tamil people or the hardships that have been inflicted upon them.*

[44]Incident #19900618 in the RAND Database of Terrorist Use of Weapons of Mass Destruction (Chemical, Biological and Nuclear). The use of this weapon was verified personally by the author who visited the destroyed

the impediments to mounting more sophisticated operations employing CBRN weapons. In this instance, several large drums of the chemical were transported from a nearby paper mill[45] and positioned around the camp's perimeter. When the wind currents were judged right, the insurgents released the gas, which wafted into the camp. It is not known how many soldiers were affected by the gas or succumbed to its effects—though various sources concede that some soldiers may have been at least temporarily incapacitated. What is known is that the SLAF itself had no chemical warfare capability and therefore the troops in the besieged camp were unable to defend against such an attack. Moreover, in order to ensure that the SLAF knew that its forces were under a poison gas attack, the LTTE reportedly broadcast the fact that night over its radio net—which the SLAF was known to monitor. In this way, the group sought to extract the maximum psychological warfare benefit possible from the operation by seeking to instill fear and terror amongst SLAF troops at other garrisons throughout the island.[46]

The LTTE used poison gas successfully at least once, why haven't they done so repeatedly? Three plausible explanations present themselves. First, the 1990 period was a time when the group was using many different kinds of improvised weapons because of a shortage of imported armaments—a situation that has since been dramatically reversed.[47] In other words, at a time when the LTTE may have had great difficulties in procuring conventional weapons and sustaining its armed struggle, its commanders may have seen the use of a chemical weapon more for its psychological warfare benefits. Accordingly, by deliberately broadcasting its use of this weapon, the LTTE's intent was likely to spread fear and foment uncertainty among other SLAF encampments which would be of considerable value to the group in future assaults. Also, at a time when the LTTE was at a significant comparative disadvantage given the superior manpower and resources at the SLAF's disposal, the use of a chemical weapon may have been embraced for its force equalizing dimension: thus accruing for the LTTE a coercive and intimidating power that its own smaller numbers and limited conventional armaments might not have as effectively conveyed. Second, the decision to use a chemical weapon tactically against a geographically

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encampment in December 1997 and saw the drums of chlorine gas used in the attack, that had been left on the outskirts of the camp. It was further confirmed in the course of in-depth interviews with more than a dozen serving or retired senior Sri Lankan military commanders, intelligence officials, police officers and captured LTTE cadre conducted in Colombo, Jaffna, and Batticaloa, Sri Lanka by the author during December 1997.

[45]Chlorine was one of several chemicals used at the paper factory to make straw into newsprint. It apparently is a method that is no longer used in Sri Lanka, at least.

[46]In 1987 the LTTE reportedly employed a disinformation, cum psychological operations, campaign in tandem with its battlefield efforts to disrupt an Army push into Jaffna by spreading rumors that it was using chemical and biological weapons against the advancing troops. Interview with senior police commander, Colombo, Sri Lanka, December 1997.

[47]See, for example, the account of LTTE's weapons procurement in Raymond Bonner, "Tamil Guerrillas in Sri Lanka: Deadly and Armed to the Teeth," *New York Times*, 7 March 1998.

isolated military target, where the risk of collateral casualties among a surrounding civilian population was low, if not non-existent, may also account for the group's selective use of this unique method of attack. Third, as is most frequently argued, the LTTE may not have wanted to continue employing weapons that risked making them unpopular among their Tamil constituents either in Sri Lanka or abroad—and not least in the international community to which the LTTE appeals for sympathy and legitimization. Finally, as Aum would also discover a few years later in their own chemical warfare operations, this type of weapon is neither nor easy to use nor as lethally effective as is popularly imagined. In the attack on Kiran, the LTTE failed to achieve its immediate objective: the infliction of mass casualties on the besieged outpost. No Sri Lankan soldiers were in fact killed nor were any incapacitated to the point where they were no longer able to defend the garrison. To the contrary, the LTTE assault was repulsed, the beleaguered troops were relieved by a rescue force, and the guerrilla units surrounding the base were routed. There is also reason to believe that the poison gas blew back on the LTTE positions: thus inadvertently, and counterproductively, affecting their own fighters as well. [48] Indeed, two members of Aum also perished in the course of its own efforts to deploy chemical weapons.

POLICY IMPLICATIONS REGARDING FUTURE POSSIBLE CBRN TERRORISM

The above analysis is not to suggest, however, that there either is no threat of terrorist use of CBRN or that it is one that should be dismissed or discounted. Indeed, the difficulties now facing a terrorist, who may seek to use a CBRN weapon to achieve mass effects, could of course change dramatically, because of new discoveries, further advances in technology, or other material factors. What this chapter has argued is that by exaggerating the ability of terrorists to wreak genuine mass destruction or inflict widespread casualties, we are in danger of missing where the real threats lie. A limited terrorist attack might not, for example, involve a WMD per se, but an unconventional chemical, biological, or radiological weapon built on a deliberately small scale. It might be used either alone or as part of a series of smaller incidents which might occur either simultaneously or sequentially in a given location. Such an attack could have disproportionately enormous psychological consequences, generating

[48] Interview with a senior SLAF military commander knowledgeable of the attack and another SLAF officer who, as a newly commissioned subaltern, was himself present in Kiran in 1990 during the chlorine gas attack, Colombo, Sri Lanka, January 2000.

unprecedented fear and alarm, and thus serving the terrorists' purpose just as well as a larger weapon or more ambitious attack with massive casualties. The most salient terrorist threat involving an unconventional weapon will likely not involve or even attempt the destruction—or even the attempted destruction—of an entire city (as often proclaimed by fictional thriller writers and some government officials and arms control specialists as well). Rather it will involve the far more deliberate and delicately planned use of a chemical, biological, or radiological agent for more discrete purposes.

Yet despite the empirical evidence regarding terrorism trends and patterns of activity (both domestic and international) and the correct lessons that should be drawn from the case of Aum, the U.S. remains singularly preoccupied with the threat of mass casualty terrorism. It continues to plan almost exclusively for worst case scenarios. This is largely a result of a mindset that took root in the immediate aftermath of both the 1995 Tokyo nerve gas attack and the Oklahoma City bombing. Our thinking and perceptions of the terrorist threat have remained fundamentally unchanged since this episode.[49] New evidence regarding Aum and the overall pattern of terrorist activity since the 1995 subway attack suggests that many of our current assumptions may be wrong. Nonetheless, no significant reassessment, reconsideration or revision of the CBRN terrorism threat profile established during the 1995-1996 time frame has yet been undertaken.[50] Thus, a critical first step in assessing the threat as it exists today and is likely to evolve in the future should be to undertake a new overall, net assessment of the terrorist threat not only internationally but domestically as well. Based on that assessment—which will address conditions, circumstances and vulnerabilities of today rather than those of five years ago—we should be able to determine whether the worst-case scenario threat assessment approach that has dominated current domestic planning and preparedness for potential acts of CBRN terrorism—is still appropriate, much less relevant.[51]

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[49]This point is made by John Parachini in "Combating Terrorism: Assessing the Threat" Testimony Before the Subcommittee on National Security, Veterans Affairs, and International Relations, Committee on Government Reform, U.S. House of Representatives, 20 October 1999.

[50]Discussion with a senior national intelligence officer responsible for this issue, Washington, D.C., 10 January 2000.

[51]This same argument has been made repeatedly by Henry L. Hinton, Jr., Assistant Comptroller General, National Security and International Affairs Division, U.S. General Accounting Office, Before the Subcommittee on National Security, Veterans Affairs, and International Relations, Committee on Government Reform, U.S. House of Representatives in (1) "Combating Terrorism: Observation on Federal Spending to Combat Terrorism," 11 March 1999; and (2) "Combating Terrorism: Observation on the Threat of Chemical and Biological Terrorism," 20 October 1999; as well as by John Parachini in "Combating Terrorism: Assessing the Threat" and Brian Michael Jenkins in their respective testimony before the same House subcommittee on 20 October 1999.; and the Hinton testimony "Combating Terrorism: Observation on Biological Terrorism and Public Health Initiatives," before the Senate Committee on Veterans' Affairs and Labor, Health and Human Services, Education, and Related Agencies

Arguably, the current narrow policy focus on lower-probability/higher-consequence threats, which in turn posit virtually limitless vulnerabilities, does not reflect the realities of contemporary terrorist behavior and operations. "This kind of analysis," Brian Jenkins recently warned in testimony before Congress, "can degenerate into a fact-free scaffold of anxieties and arguments—dramatic, emotionally powerful, but analytically feeble."[52] At the same congressional hearing, another expert, John Parachini, had similar advice to give. The "apparent over reliance," he noted, "on worst-case scenarios shaped primarily by vulnerability assessment rather than an assessment that factors in the technical complexities, motivations of terrorists and their patterns of behavior seems to be precisely the sort of approach we should avoid."[53] The main weakness in such an approach is in the axiomatic assumption that any less serious incident can be addressed equally well by planning for the most catastrophic threat. This ignores the fact that the higher-probability/lower-consequence attacks[54] might present unique challenges of their own.

Finally, this approach may be the least efficacious means of setting budgetary priorities and allocating resources and indeed assuring the security of our country. This was precisely the point made by Henry L. Hinton, Jr., the Assistant Comptroller General, National Security and International Affairs Division, U.S. General Accounting Office, when he testified before Congress in March 1999. "The [most] daunting task before the nation," he argued,

> *is to assess—to the best of its ability—the emerging threat with the best available knowledge and expertise across the many disciplines involved. The United States cannot fund all the possibilities that have dire consequences. By focusing investments on worst-case possibilities, the government may be*

Subcommittee, Senate Committee on Appropriations, GAO/T-NSIAD-99-12, General Accounting Office Washington, D.C., 16 March 1999.

[52]Jenkins, "Testimony," 20 October 1999, p. 4.

[53]Parachini, "Combating Terrorism: Assessing the Threat," 20 October 1999, p. 17.

[54] A higher probability/lower consequence event is considered to involve the discreet, rather than massive, use of a chemical, biological, radiological or conventional weapon; whose effects would be geographically limited in both scope and actual physical destructiveness and that would most likely be aimed at inflicting fatalities numbering in the tens or twenties rather than the thousands (even though the number of injured requiring medical treatment could number in the thousands). The use of this term is meant to differentiate from lower probability/higher consequence events whereby a larger chemical, biological, radiological, or nuclear weapon would be used with intent of causing massive damage, extending over and affecting a widespread geographical area and resulting in perhaps thousands of fatalities and tens of thousands in injuries. As the former attack is regarded as relatively easier perhaps to execute in terms of the technological knowledge and sophistication, logistical support, and organizational assets required, based on patterns of terrorist activity and behavior, this is regarded to be the more likely type of threat. This assumption, however, is not meant to exclude the possibility of lower probability/higher consequence incidents occurring nor to ignore the need for appropriate preparedness and emergency response measures to counter the range of potential terrorist threats across a broad spectrum of assumed severity.

missing the more likely threats the country will face. With the right threat and risk assessment process, participants, inputs, and methodology, the nation can have greater confidence that it is investing in the right items in the right amounts. Even within the lower end of the threat spectrum—where the biological and chemical terrorist threat currently lies—the threats can still be ranked and prioritized in terms of their likelihood and severity of consequences. A sound threat and risk assessment could provide a cohesive roadmap to justify and target spending. . . .[55]

Moreover, at a time when the U.S. is especially preoccupied with these "high-end" terrorist threats involving mass destruction CBRN weapons, the series of apartment building bombings that occurred in Russia and Dagestan during August and September 1999 is a salutary reminder of how terrorists can still achieve their dual aim of fear and intimidation through entirely conventional means and traditional methods: using bombs to blow things up. This fact has important implications for America's—and indeed also other countries'—counter-terrorism preparedness. Given the limited resources and constrained capabilities typical of most terrorists, they perhaps reflexively shun weapons and tactics that either cannot be relied upon completely or that pose such enormous complexities in terms of their employment (e.g., achieving effective dispersal or dissemination) as to border on the unappealing, if not useless. For this reason, it can be said that terrorists remain essentially content with the limited killing potential of their handguns and machine-guns and the slightly higher rates that their bombs can achieve. In other words, they seem to prefer the assurance of the modest success provided by their more conventional weapons and traditional tactics to the risk of failure inherent in more complex and complicated operations involving CBNR weapons. Indeed, of the more than 9,000 incidents recorded in The RAND Chronology of International Terrorism since 1968, fewer than 100 evidence *any* indication of terrorists plotting to attempting to use chemical, biological or radiological weapons or to steal, or otherwise fabricate on their own, nuclear devices—much less actually to carry out such attacks. As one critic has observed in connection with the current concern over terrorist use of biological agents: "Nasty people and the ingredients for bioterrorism were all in place over a decade ago. Why now the drumbeating?"[56] Indeed, since the beginning of the century little more than a dozen terrorist incidents in fact have occurred that resulted in the deaths of more than a 100 persons at one time: an arguably infinitesimal number given the total

[55]Hinton, "Combating Terrorism: Observations on Biological Terrorism and Public Health Initiatives," GAO/T-NSIAD-99-112, 16 March 1999, pp. 4–5.

[56]Daniel S. Greenberg. "The Bioterrorism Panic," *Washington Post*, 16 March 1999.

volume of terrorism that has occurred worldwide within past quarter century, much less one hundred years.[57]

There is another relevant paradox affecting terrorist behavior. Terrorists have long been seen as far more imitative than they are innovative. However, to date, no similar or copycat act of terrorism, which at the time was thought might likely follow in the wake of the 1995 sarin nerve gas on the Tokyo subway, has materialized. In this respect, the Tokyo incident has been the exception rather than the rule in terms of terrorist behavior. "This fact gains significance," Brian Jenkins recently observed, "when we note that past terrorist and criminal innovations—airline hijackings, political kidnappings, malicious product tampering—were promptly imitated. And terrorist attacks involving chemical and biological agents, if they do occur, are likely to remain rare events—they will not become the truck bomb of the next decade."[58]

Finally, it should be noted as serious and potentially catastrophic as a terrorist CBRN attack might prove, it is highly unlikely that it could ever completely undermine the national security, much less threaten the survival of a nation like the U.S. or indeed most other Western countries. This point should be self-evident, but given the rhetoric and hyperbole with which the threat of CBRN terrorism is frequently couched, it requires reiteration. In addition it should be noted that even in the wake of the intense and fear concern that followed the 1995 Tokyo nerve gas attack, the Japanese government did not fall, widespread disorder did not ensue throughout the country nor did society collapse. There is no reason to assume that the outcome would be any different in the U.S. or in any other Western democratic state in the event of a similar terrorist attack involving a chemical or biological weapon. To take any other position risks surrendering to the fear and intimidation that is precisely the terrorists' timeless stock and trade.

In closing it needs also to be said that one of the most striking aspects of the current debate over the likelihood of terrorist use of CBRN weapons is how wide the intellectual chasm

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[57]These include bombing in Bessarabia in 1921; a 1925 bombing of a crowded cathedral in Sofia, Bulgaria; a largely unrecorded attempt to poison imprisoned German SS concentration camp guards shortly after World War II; the crash of a hijacked Malaysian passenger plane in 1977; the arson attack at a Teheran movie theater in 1979 that killed more than 400; the 1983 bombing of the U.S. Marine barracks in Lebanon that killed 241; the 1985 inflight bombing of an Air India passenger jet that killed all 328 persons on board; the simultaneous explosions that rocked an ammunition dump in Islamabad, Pakistan in 1988; the bombing of Pan Am flight 103 in 1988 that killed 278 persons; the 1989 inflight bombing of a French UTA flight that killed 171; the inflight bombing, as in 1989, of a Colombian Avianca aircraft on which 107 persons perished; and the aforementioned 1993 series of bombings in Bombay, the 1995 explosion at the Murrah Building in Oklahoma City, and the two American embassy bombings in East Africa in 1998 . As terrorism expert Brian Jenkins noted in 1985 of the list upon which the preceding is an expanded version: "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. This in itself suggests that it is either very hard to kill large numbers of persons or very rarely tried." See Brian M. Jenkins, *The Likelihood of Nuclear Terrorism* (Santa Monica, CA: RAND, P-7119, July 1985), p. 7.

[58]Jenkins, "Testimony," 20 October 1999, pp. 2-3.

separating the academic and policymaking communities over this issue has grown. The position of most academic terrorism analysts has been far more restrained and skeptical than many of their counterparts in government, the military, and law enforcement. Yet, their cautionary appraisals are either dismissed or have long ago been superseded by a policy process that is already plowing full-steam ahead. Further thought might therefore profitably be devoted to understanding why this bifurcation of views has emerged and indeed how these differences of opinion might be harnessed to develop an array of effective responses and precautionary measures that would effectively address the CBRN terrorist threat. There is thin line between prudence and panic. The challenge, therefore, in responding to the threat of potential terrorist use of CBRN weapons is to craft a defense that is not only both cost effective and appropriate, but that is also sober and practical.