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NUCLEAR TERRORISM: TERRORIST GOALS DETERMINE PROPENSITY FOR USE

by

Robert C. Wilson
Commander, USN

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Introduction.

> *If we believe that terrorists could, if they wished to, wield nuclear weapons to threaten or damage their chosen enemies, then the important question becomes: Why would they want to? To answer this question, we have to ask further what terrorists are trying to do and what means best suits their ends.*
> – Kenneth Waltz [1]

Homeland defense is rightly our nation's number one strategic priority - and in the 21st century, the prospect of nuclear terrorism is a serious concern. The answer to what may motivate a terrorist organization to employ a nuclear WMD can provide insight to which organizations these might be. By identifying such higher propensity organizations, the source of the threat becomes clearer and the operational commander is better able to determine where and how to focus resources and forces to combat the threat.

Since there is yet to have been an act of nuclear terrorism, the question of whether a terrorist organization would commit nuclear violence must necessarily involve a certain degree of theoretical analysis. The analysis of whether a terrorist organization may be inclined to employ a nuclear WMD is greatly influenced by the decision-making theory to which one subscribes. Such analysis has implications for what type of terrorist organizations may choose to engage in such behavior.

This paper will argue that the goals of a terrorist organization are the decisive element in determining their propensity to engage in nuclear terrorism. To this end, the essay will analyze terrorist motivations to employ a nuclear WMD. It will examine arguments that on the one hand say they are unlikely to be used and counter arguments that say they some day may. In so doing the paper's examination of the subject will enable an assessment of what type of organization poses the greatest potential threats. Finally, it will identify implications for operational intelligence to combat the prospect of nuclear terrorism.

Defining Nuclear Terrorism.

A definition of *terrorism* must first be established. Conventional definitions of terrorism have emphasized the point that "through violence or threats of violence, terrorism is intended to coerce or intimidate individuals, a community or a government in furtherance of *political* aims."[2] For discussion of nuclear terrorism, however, joint doctrine's current definition of terrorism is necessarily more comprehensive and provides for the inclusion of apolitical goals – both religious and ideological. Joint doctrine defines terrorism as:

> The calculated use of violence or threat of violence to inculcate fear; intended to coerce or intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological.[3]

As our discussion will show, the increasing trend in terrorist organizations with a religious orientation requires a broad definition of terrorism that can encompass a wide range of terrorist goals.

Expanding on this definition, *nuclear terrorism* achieves the terrorist goal through nuclear violence or threats of nuclear violence. Such violence may manifest itself in a variety of forms: radiological dispersal devices employing high explosives, radiological contamination through sabotage, and a nuclear explosion (i.e., with an improvised nuclear device or a stolen weapon). The term *nuclear terrorism* can cover a range of terrorist methods. While use of an explosive nuclear device may present the most dangerous act for a terrorist organization, use of a radiological dispersal device (RDD) is perhaps the more likely course of action. As noted in current antiterrorist doctrine, "Although an explosive nuclear device is acknowledged to be beyond the (current) reach of most terrorist groups … a radiological dispersion device (RDD) using nuclear contaminants is not."[4]

The goals of a terrorist organization are key to understanding the methods which they are inclined to employ. In this regard, joint doctrine tells us that topping the list of antiterrorist information

requirements is an assessment of a terrorist organization's long and short-range goals.[5] Examination of arguments for and against terrorists' choice to use nuclear violence can help to gain better understanding of terrorist goals and their propensity to use a nuclear device.

Arguments Against Nuclear Terrorism.

An examination of what terrorists would stand to lose by employing nuclear weapons argues that there is no motivation for such an escalation.[6] Rational choice theory predicts that terrorists would weigh the costs and gains and then pick the option that provides the greatest ratio of gains to costs. [7]

Those who argue that terrorists are *not* sufficiently motivated to employ a nuclear device may be considered the *nuclear optimists*. Notable among such optimists are terrorism expert Brian Jenkins and nuclear deterrence scholar Kenneth Waltz. Their optimism stems from rational choice theory by which terrorists carefully plan their actions. In championing rational choice theory, Waltz believes that "Terrorists have some hope in reaching their long-term goals through patient pressure and constant harassment. They cannot hope to do so by issuing unsustainable threats to wreck great destruction, threats they would not want to execute anyway.'[8] While Jenkins' optimism has a few more caveats than that of Waltz, he too shares skepticism of the likelihood of terrorist nuclear incidents. He has maintained that "Terrorists want a lot of people watching, not a lot of people dead."[9]

The reasons for terrorists *not* to employ a nuclear device are compelling. A significant limitation that inhibits their use is that a nuclear device may be unreliable. Why would terrorists want to bear the financial costs and security risks associated with a nuclear weapon (i.e., constructing, stealing, or buying) that may not even work properly? It had long been accepted among experts that ease of

execution, low risk and high probability of success are the terrorists' operational goals, whereby the terrorist mode of operation is to avoid technically demanding operations, uncertainty, and risk.[10]

While the 9/11 terrorist attacks against the World Trade Center (WTC) and Pentagon demonstrated that complex operations are possible, fissile nuclear operations are vastly more complex. Kenneth Waltz observes the enormous risks and costs potentially involved with the development of a nuclear device:

> Terrorists work in small groups. Secrecy is safety, yet to obtain and maintain nuclear weapons would require enlarging the terrorist band through multiplication of suppliers, transporters, technicians, and guardians. Inspiring devotion, instilling discipline, and ensuring secrecy become harder tasks to accomplish as numbers grow.[11]

While Waltz points out reasons that inhibit nuclear terrorism from happening in the first place, these very same points may be used to counter such terrorist efforts. The essay will return to this point later.

Rational choice theory also predicts that terrorists may not want to face the consequences of their actions. In the aftermath of a nuclear terrorist incident, there is likely to be a public mandate calling for an extreme government response against the terrorists themselves or countries harboring the suspected nuclear terrorists. Such an incident may very well receive the top priority of all national intelligence gathering assets. Should the perpetrators of the incident ever be discovered (perhaps even without conclusive proof), they are likely to be prosecuted with extreme prejudice. Indeed, it would be difficult to imagine diplomats and politicians calling for and carrying out anything short of harsh decisive action following such an incident.

The safe havens provided by international boundaries enjoyed by conventional terrorists may be less secure for the nuclear terrorist. Following an incident of nuclear violence, it is not difficult to imagine an international mandate calling for the transnational prosecution of nuclear terrorists. Terrorist

organizations may well realize the potentially intense pressure that a nuclear act my precipitate. Since terrorists are rational actors not wanting to see their organization's demise, they would consequently be deterred from engaging in nuclear violence.

A compelling argument against terrorist nuclear violence combines rational choice and organizational theory.[12] It predicts that terrorist nuclear acts may result in a loss of their organization's internal and external support. The potential for public outrage precipitated by a nuclear act may serve to deter the motivation for their use. As Jenkins notes, "Mass casualties simply may not serve the terrorists' goals and could alienate the population."[13] Elsewhere he observes, "They know if they act too horribly, they may alienate their perceived constituents, create public backlash, or provoke the police to crack down on them - with popular support."[14]

Other influences may serve as a deterrent to acts of such intense indiscretion as well. Brian Jenkins argues that there may be self-imposed constraints that derive from moral considerations or political calculations. He observes that, "Some terrorists may view indiscriminate violence as immoral. The terrorists' enemy is the government, not the people. Some terrorists pretend to be governments, and wanton murder might imperil this image."[15] Consequently, the political legitimacy terrorists seek may be undermined by nuclear violence.

While rational choice theory offers reasons why terrorists *will not* employ nuclear violence, the prospect of whether terrorists *will* go nuclear may be investigated through the perspectives of *organizational* and *prospect theory*.

Arguments for Nuclear Terrorism.

For nearly twenty years the assertion that terrorists wanted a lot of people watching, not dead, appeared quite valid. This oft-quoted assertion relies on the underlying assumption that terrorism is intended to achieve strictly political objectives. Are there terrorists with apolitical objectives who *would* want a lot of people dead?

In 1994, Brian Jenkins articulated some revised thoughts on this matter predicting that violence driven by religious and ethnic conflict, as opposed to purely ideological/political quarrels is likely to increase as we move through the 21st century. Under such circumstances, he notes that there are few constraints against using violence. He observes:

> The Trade Center bombers (of February 1993) didn't worry about offending their constituency - their constituency was outside this world. This sanction-of-God stuff in their heads: The deaths were justified and they think it's a shame only six people died.[16]

Indeed, this was an enduring motivation that again manifested itself in the 9/11 WTC attack.[17]

In April 1995, William Studeman, acting deputy director for the CIA, expressed his own concern for a changing trend in terrorism. His Congressional testimony noted that in the past terrorist groups sought legitimacy, recognition, and concessions for their cause. However, a break in this trend can be seen with terrorist organizations not seeming to care about establishing legitimacy, but just wanting to strike a blow in anger and kill as many people as possible. He concluded that terrorist calculations for the right level of violence seem to have no upper limit.[18]

Defense analyst Gavin Cameron has argued that the most extreme levels of violence are likely to be carried out by religiously-oriented terrorist groups. In particular, religious cults are the most likely to resort to high-level violence because they are often controlled by a single leader and are isolated from moderating outside influences.[19] This suggests that the emergence of religiously motivated groups bent

on causing mass death without regard for political consideration has increased the likelihood of nuclear terrorism.

The Japanese *Aum Shinri-Kyo* (Divine Truth) group's sarin nerve-gas attacks of March and April 1995 that left 12 dead and 5,500 injured in a Tokyo subway crossed the conventional-WMD threshold.[20] Would the sect have wanted to go nuclear? According to an *Asiaweek* report, Aum's propaganda was "filled with references to a nuclear holocaust that guru Asahara Shokou believed would occur between 1999 and 2003. Written in the notebook of the cult's 'defense minister,' Kibe Tetsuya, were indicative notations such as, 'nuclear head - how much?' followed by "$200,000 for a secondhand and $1 million for a brand new one."[21] Furthermore, police reportedly confiscated documents concerning uranium enrichment technology when they raided the sect's headquarters.[22] Subsequent investigation revealed that in the early 1990s, Aum actively recruited followers from Russian nuclear design facilities as well as student physicists from Moscow State University. Additionally, it purchased property in Australia from which it planned to mine uranium for subsequent enrichment. Perhaps most concerning was that in 1993, Aum representatives reportedly sought a meeting with then-Russian Energy Minister Viktor Mikhailov in order to discuss the purchase of a nuclear warhead.[23]

The group's millenarian beliefs that the world would end in an Armageddon-type finale are by no means unique. Who else might want to assist in what they truly believe as the end of the world for some redemptive purpose? These tendencies have been seen in other groups ranging from the Branch Davidians to Jewish Kabbalists.[24] Inspiration for such tendencies comes from dangerously respectable sources: Christian sects such as the Branch Davidians draw upon the writings of Saint John in the Book of Revelation, while Jewish sects such as the Kabbalists rely upon esoteric interpretations of Hebrew scripture. The motivation to carry out cataclysmic levels of violence arises from the general desire to

see prophesy fulfilled and the specific desire to help expedite the day of redemption's arrival. According to terrorism expert Walter Laqueur, "Those who subscribe to such beliefs number in the hundreds of thousands and perhaps millions."[25]

Those who argue that terrorists are sufficiently motivated to employ a nuclear device may be considered the *nuclear pessimists.* Notable among the pessimists are Dr. Steven R. David and Dr. Brad Roberts. According to Dr. David, Professor of Political Science at Johns Hopkins University, "(Terrorists) have used conventional weapons for the most part because they were available. If they could increase the killing by using nuclear weapons, they would do so without hesitation."[26] Dr. Roberts, editor of *The Washington Quarterly* and a research fellow at the Center for Strategic and International Studies, has convincingly argued that in thinking about the potential for "superterrorism" we must today consider the possible emergence of a new brand of actor motivated not by desire to extract a political concession but by the desire to extract retribution or to strike a decisive blow at state power.[27] Roberts' work suggests that the prospects for apolitically motivated terrorism is on an upward trend.

There indeed has been an increasing trend in the number of religious terrorist groups. Gavin Cameron has found an increasing world-wide trend over the years. In 1968, no international terrorist group could be described as religious and by 1980 only two of 64 groups (three percent) were classified as non-secular. In the 1990s, however, he found a significantly increasing trend: 11 of 48 terrorist groups were religious in 1992 (23%), 16 of 49 in 1994 (32%) and in 1995, 25 of 58 active international terrorist organizations (43%) were religious in character or motivation.[28]

Bruce Hoffman, a leading terrorism expert at the RAND Corporation, notes distinct differences between secular and religious terrorists with the latter having greater potential to engage in acts of mass destruction:

> Where secular terrorists regard violence as a way of instigating the correction of a flaw in a system that is basically good or as a means to foment the creation of a new system, religious terrorists see themselves not as components of a system worth preserving, but as outsiders, and therefore seek vast changes in the existing order. This sense of alienation also enables the religious terrorist to contemplate far more destructive and deadly types of terrorist operations than secular terrorists and indeed to embrace a far more open-ended category of "enemies" for attack.[29]

Although Hoffman sees the religious imperative as the most obvious motive behind terrorist WMD use, on the secular side, "The most likely terrorist WMD scenario would involve an ethno-nationalist minority either on the verge of military defeat or having some political settlement imposed on them to employ such a weapon in a final act of desperation."[30] Although the U.S. is unlikely to directly face such ethno-nationalist groups, Hoffman notes that countries contributing forces to peace keeping operations under such circumstances could be at risk.

Terrorist Psycho-logic.

A psychological level of analysis can tell us something about the prospect for nuclear terrorism. Dr. Jerrold Post, Professor of Political Psychology and International Affairs and Director of the Political Psychology Program at George Washington University, believes that a psychology at the individual level alone cannot explain the propensity towards nuclear terrorism. In his work to construct a psychology that would lead an individual to be motivated to carry out an act of nuclear terrorism and have the capability to implement it, Post concludes that psychotic individuals most strongly motivated to commit acts of nuclear terrorism would be the least able to carry them out, although psychotic individuals could be - and have been - responsible for nuclear hoaxes.[31]

A credible nuclear threat/hoax, may provide the high degree of leverage and publicity terrorists want without the enormous risk and expense associated with obtaining and detonating an actual device. As Jenkins notes, "A well publicized hoax could be as alarming as actual possession of a real weapon, provided people have no way of knowing that it is a hoax."

In Brian Jenkins' view, a nuclear hoax or radiological dispersal device (RDD) may serve terrorist purposes quite effectively. He argues that any terrorist action associated with the words "atomic" or "nuclear" would automatically generate fear in the mind of the public. Consequently anyone who is believed to have a nuclear device becomes a successful terrorist. [32]

Joint doctrine agrees in that, "any terrorist group that has established credibility can employ a hoax with considerable success."[33] Hoaxes in themselves could serve as an effective terrorist diversionary tactic with adverse operational impacts. Indeed, false alarms can serve to dull the analytical and operational efficiency of key security personnel and thereby degrade readiness.[34]

Groupthink and Prospect Theory.

The rational choice perspective explains well the reasons why terrorists *would not* want to go nuclear. The preceding arguments have all taken a rational approach based upon logic as reasoned by an individual. Jerrold Post believes that psychological analysis conducted at the group level, however, is more likely to support the prospect of nuclear terrorism. He examines the phenomenon of *groupthink* in his essay entitled "Whether Terrorists Go Nuclear." The center of his investigation asks whether it is possible to construct a terrorist psychologic that not only *permits* but *requires* nuclear terrorism. Post argues that the phenomenon known as *groupthink* occurs when groups make decisions in time of crisis. *Groupthink* is a phenomenon in which group members excessively seek group concurrence, members'

strivings for unanimity override their motivation to realistically appraise alternative courses of action, they suppress dissent to maintain group harmony, and blindly convince themselves that the group's position is correct.[35] Post notes that *groupthink* is characterized by the following features:

- Illusions of invulnerability leading to excessive optimism and excessive risk taking.
- Collective rationalization efforts to dismiss challenges to key assumptions.
- Presumption of the group's morality.
- Unidimensional perception of the enemy as evil (thereby denying the feasibility of negotiation) or incompetent (thereby justifying risky alternatives).
- Intolerance of challenges by a group member to shared key beliefs.
- Unwillingness to express views that deviate from the perceived group concensus.
- A shared illusion that unanimity is genuine.
- The emergence of members who withhold adverse information concerning the instrumental and moral soundness of its decision from the group.[36]

These traits seem to epitomize the decision making process of the terrorist group according to Post. The most salient features involve the reduction of critical judgment, the assumption of the group's morality, and the illusion of invulnerability which leads to excessive risk taking. Consequently, nuclear terrorism becomes more plausible when the influences of *groupthink* are considered.

There is yet another relevant theory underlying propensities for irrational behavior. The explanatory power of *prospect theory* merits consideration for a moment.[37] In short, the theory attempts to explain the decision-making processes people actually use and shows how these systematically produce outcomes that violate a number of key assumptions of rational choice theory. Specifically, prospect theory predicts that, in making their decisions, *people will often fail to maximize expected utility.*[38]

According to prospect theory, losses have a greater influence upon people than do gains (i.e., people hate to lose more than they like to win). Consequently, greater risks are acceptable in order to get back what is perceived to have been *lost* as opposed to risks undertaken for a perceived *gain*.[39] A key feature of prospect theory is that *people often fail to act as if they were rational*. This of course challenges the basic assumption underlying most analyses of terrorism and WMD use. Several examples serve to illustrate this phenomenon: Among gamblers, double or nothing betting is common among the heavy losers in the last hand of a game of cards; the last race of the day at a horse track (when the odds are that people have lost the most) often carries with it the heaviest betting. In the area of international relations, General Tojo's remark several weeks before Pearl Harbor is illustrative of prospect theory: "There are times when we must have the courage to do extraordinary things – like jumping, with eyes closed, off the veranda of the Kiyomizu Temple."[40] Interestingly, Levy notes that risk-seeking propensities tend to increase in the context of group decision-making.[41]

Robert Jervis observes that in international relations, "a state will be willing to pay a higher price and run higher risks if it is facing losses than if it is seeking to make gains . . . Conflicts and wars are more likely when each side believes it is defending the status quo."[42] Meanwhile, Brian Jenkins maintains that well-established terrorist organizations tend to act like states.[43] If there is indeed similar behavior between some terrorist organizations and states, might not prospect theory also be applied to terrorist decision-making?

If this is so, how might prospect theory be applied to terrorist WMD propensities? A terrorist group that is on the way out, lost support, and lost the headlines may ask "What have we got to lose?" Jerrold Post suggests that pressures of group decision-making coupled with the requirement for group

survival may push a terrorist organization to commit a *terrorist spectacular* as a way of regaining prominence. He believes that it is with such a group that the greatest danger of nuclear terrorism lies.[44]

A variety of internal and external considerations could drive a terrorist organization towards nuclear violence. If we believe that some organizations may be sufficiently motivated to carry out an act of nuclear terrorism, the methods of employment deserve some discussion.

Methods of Nuclear Terrorism.

While a nuclear detonation may be the most dangerous course of action a nuclear terrorist may take, it is not the most likely. A radiological dispersal device (RDD) is the more likely method for terrorist entry into the nuclear realm.[45]

An RDD or "dirty bomb" can be constructed in a similar fashion to a fragmentation bomb but the difference being that radiological material instead of metal fragments are scattered using high explosives. Allied intelligence agencies are reported to believe that bin Laden could easily have constructed a "dirty bomb" by wrapping material such as uranium 238 around a conventional explosive.[46]

Security of radioactive materials has been lax and dangerous material is available. Since 1986, the NRC has recorded over 1,700 instances in which radioactive material has been lost or stolen.[47] While it may be relatively easy to obtain the ingredients for an RDD, according to Dr. David Lochbaum, a nuclear engineer at the Union of Concerned Scientists, "It (an RDD) would not harm a lot of people from a human health perspective … But it would cause a lot or terror."[48]

A fissile nuke is a device infinitely more complex than a RDD. It produces a nuclear chain reaction and explosion such as occurred over Hiroshima and Nakasaki. While experts agree that

construction of such a device is probably beyond the capabilities of terrorist organizations, the use of a ready-made device is a different story.

Some notable figures have raised concerns over unaccounted for "suitcase" nukes. In a 1997 CBS 60 Minutes interview, General Aleksandr Lebed, a former Russian national security advisor, said that the Russian military had lost track of more than 100 suitcase-sized nuclear weapons out of a total of some 250.[49] Countering this statement, however, Russian Scientist Alexie Yablokov, a former member of the Russian National Security Council, told Congress that suitcase nukes were actually controlled by the KGB, the former Soviet intelligence service, and were thus outside the inventory accounting system of the Russian military.[50] Nevertheless, other seemingly respectable figures have fueled further concerns. Yossef Bodansky, the director of the U.S. Congressional Task Force on Terrorism and Unconventional Warfare, has heightened concerns over Russian "suitcase" bombs. In his 2000 book "Bin Laden: The Man Who Declared War on America," Bodansky cited unnamed intelligence sources and wrote:

> Although there is debate over the precise quantities of weapons purchased, there is no longer much doubt that bin Laden had finally succeeded in his quest for nuclear suitcase bombs. Bin Laden's emissaries paid the Chechens $30 million in cash, and gave them two tons of Afghan heroin worth about $70 million for the bombs.[51]

While some may take Bodansky's book as more speculation than truth, it does lend credence to bin Laden's assertion in an October 2001 interview that Al Qaeda possessed nuclear weapons as a deterrent.[52]

Perhaps the most serious and credible concern though was raised earlier this year by an Energy Department advisory group headed by former Sen. Howard Baker and former White House counsel Lloyd Cutler. Their report concluded:

> The most urgent unmet national security threat to the United States today is the danger that weapons of mass destruction or weapons-usable material in Russia could be stolen or sold to terrorists or hostile nation-states.[53]

A combination of expert disagreement and informed speculation has created a considerable degree of uncertainty and concern regarding the prospect of nuclear terrorism.[54] From a practical standpoint in the war on terrorism however, operational planners have to assume a worst case situation – nuclear material is available to terrorist organizations motivated to employ it.

Conclusions and Intelligence Implications.

Analysis of terrorist motivations to use nuclear devices must necessarily engage in a certain degree of informed speculation based on theory. The analysis of whether a terrorist organization may be inclined to go down the nuclear WMD path will be greatly influenced by the decision-making theory to which one subscribes. The rational choice paradigm may result in a quite different analysis from a decision-making paradigm rooted in prospect theory. Analysis employing strictly rational choice theory leads one to conclude that nuclear terrorism would be counter-productive for terrorists, hence unlikely.

Rationality may not prevail in the decision-making process of all terrorist organizations, however. Influences of *groupthink* and the dynamics of *prospect theory* offer alternative explanations of why terrorists may want to engage in an act of seemingly indiscriminate violence. Organizations seeking drastic changes to society as it currently exists may be inclined to engage in seemingly high-risk, irrational behavior.

Since acts of fissile nuclear terrorism (i.e., a nuclear detonation) committed by individuals or small groups are less likely due to their complexity and terrorist secrecy becoming harder as numbers of people in the organization grow, there are increasing prospects of successful intelligence monitoring of such groups. Indeed, with the scores of terrorist organizations active in the world today, the primary

intelligence analysis challenge is to identify groups that are both motivated *and* capable of employing a nuclear WMD.

Our examination of terrorist motivations carries with it some implications for operational intelligence. A linkage can be seen between terrorist goals and their motivation for nuclear violence. By understanding terrorist propensities to use a nuclear device, the operational commander can gain insight into some of the types of organizations and conditions under which terrorists might employ them.

The potential of a terrorist nuclear threat and the method by which it manifests itself can create a dilemma for operational intelligence. On one hand is a most dangerous but least likely course of action: the potentially massive destruction wielded by a fissile nuclear device. On the other hand is a less dangerous but more likely terrorist course of action: employing an RDD. Sorting through which organizations would have a propensity for what courses of action is indeed a daunting task. Nevertheless, an understanding of terrorist goals and motivations can uncover a subset of terrorist organizations that may be bent on achieving unprecedented levels of destruction. Analysis of terrorist goals is the key to sorting out which groups these might be.

In trying to determine which groups might engage in nuclear terrorism, the goals and constituency of terrorist organizations should be an aspect of analysis in addition to potential capabilities. This examination has suggested that terrorist organizations of a religious/cult nature, ethnic affiliation, and/or an organization in state of decline may have tendencies to carry out such acts of extreme violence. Additionally, an organization willing to take the high risks associated with obtaining and using nuclear weapons would consequently have a general disregard for public condemnation. The very nature of nuclear terrorism - with its indiscriminant violence - requires that its perpetrators have a high tolerance for collateral casualties. Experts such as Brian Jenkins and Bruce Hoffman have pointed out

that organizations embracing a fanatical, redemptive philosophy, that see themselves apart from the existing social order may be more likely to engage in such acts of extreme violence.

While simplicity and ease of operation may have characterized terrorist modes of operation in the past, complexity appears less an obstacle for well-organized groups that are sufficiently motivated to carry out acts of mass destruction. The adage that terrorists want a lot of people watching not a lot of people dead was shown thread bare in the wake of the 9/11 WTC attack. Instead, some terrorists may want a lot of people watching *and* a lot of people dead. The WTC and Pentagon attacks raised the public's attention-getting threshold to such a level that future attacks of lesser magnitude may pale in comparison. After 9/11, terrorists may be compelled to more spectacular events in order to gain the headlines required for their cause. While there has yet to be an incident of nuclear terrorism, and its prospect is still a matter of speculation, the bar has been raised to an unprecedented height.

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Endnotes

[1] Kenneth Waltz and Scott Sagan, The Spread of Nuclear Weapons: A Debate (New York: Norton, 1995), 95.
[2] John P. Goss, Response to the essay, "Is Nuclear Terrorism Plausible?" in Nuclear Terrorism: Defining the Threat, ed. Paul Leventhal and Yonah Alexander (McLean, Vir.: Pergamon-Brassey's, 1986), 39.
[3] Joint Chiefs of Staff, Joint Doctrine Encyclopedia, (Washington, DC: 16 July 1997), 688.
[4] Joint Chiefs of Staff, Joint Tactics, Techniques, and Procedures for Antiterrorism, Joint Pub 3-07.2 (Washington, DC: 17 March 1998), II-3.
[5] *Ibid*., V-6.
[6] Discussions of whether terrorists will go nuclear dated sometime before 1990 tend to be more convincing on the negative side of the argument. "They would if they could" is a prevalent theme in more recent examinations.
[7] Rational choice theory maintains that choices are made based on maximization of expected returns. It assumes that choices are made by rational actors based on logical assessment of a given situation.
[8] Waltz and Sagan, 95.
[9] Brian M. Jenkins, Will Terrorists go Nuclear?, RAND Paper Series, no. P-5541 (Santa Monica, Calif.: RAND, 1975), 5.
[10] Brian M. Jenkins, "Will Terrorists Go Nuclear? A Revised Appraisal," in The Future of Terrorism: Violence in the New Millennium, ed. Harvey W. Kushner (Thousand Oaks, Calif.: Sage Publications, 1998), 243.
[11] Waltz and Sagan, 95.
[12] Organizational Theory maintains that organizations behave in a manner designed to ensure their survival. See Herbert G. Hicks, et al., Organizations: Theory and Behavior.
[13] Jenkins, Will Terrorists Go Nuclear?, 5.
[14] Brian M. Jenkins, interview by Paul Bagne, Omni (November, 1994): Lexus/Nexus database.
[15] Brian M. Jenkins, "Future Trends in International Terrorism." In Current Perspectives on International Terrorism, edited by Robert O. Slater and Michael Stohl (New York: St. Martins's Press, 1988), 262.
[16] Brian M. Jenkins, interview by Paul Bagne, Omni (November, 1994): Lexus/Nexus database.
[17] This begs the rhetorical (and ugly) question, "Was the 9/11 WTC attack another Pearl Harbor or a take-two aimed at a long-term terrorist goal?"
[18] Gavin Cameron, "Nuclear Terrorism: A Real Threat?" Jane's Intelligence Review, 8 (September, 1996): 424.
[19] Gavin Cameron, Nuclear Terrorism: a Threat Assessment for the 21st Century (New York: St. Martin's Press, 1999), 140.
[20] Cameron, "Nuclear Terrorism: A Real Threat?," 425.
[21] Todd Cromwell, "Nukes on the Loose," Asia Week, 6 (October, 1995): Lexus/Nexus database.
[22] Similar notes were reportedly found concerning Al Qaida.
[23] Peter Grier, "Looses Nukes," Christian Science Monitor, 5 Dec, 2001: Early Bird database.
[24] See Jerrold R. Post, "Prospects for Nuclear Terrorism: Psychological Motivations and Constraints," in Preventing Nuclear Terrorism, ed. Paul Leventhal and Yonah Alexander (Lexington, Mass.: Lexington Books, 1987), 91-103.
[25] Walter Laqueur, "Post Modern Terrorism," Foreign Affairs 75, no. 5 (September/October 1996): 33.
[26] Steven R. David, "Risky Business: Let Us Not Take a Chance on Proliferation," Security Studies 4, no. 4 (Summer, 1995): 775.
[27] Brad Roberts, "Rethinking the Proliferation Debate: A Commentary," Security Studies 4, no. 4 (Summer, 1995): 796-97.
[28] Cameron, Nuclear Terrorism: a Threat Assessment for the 21st Century, 158.
[29] Bruce Hoffman, Terrorism and Weapons of Mass Destruction: An Analysis of Trends and Motivations (Santa Monica, Calif.: RAND, 1999), 28.
[30] *Ibid*., 54.
[31] Post, "Prospects for Nuclear Terrorism," 92-93.
[32] Jenkins, Will Terrorists go Nuclear?, 5.

[33] Joint Chiefs of Staff, Joint Tactics, Techniques, and Procedures for Antiterrorism, Joint Pub 3-07.2 (Washington, DC: 17 March 1998), II-3.
[34] *Ibid*., II-3.
[35] Jerrold R. Post, "Prospects for Nuclear Terrorism: Psychological Motivations and Constraints," in Preventing Nuclear Terrorism, ed. Paul Leventhal and Yonah Alexander (Lexington, Mass.: Lexington Books, 1987), 97.
[36] *Ibid*., 97.
[37] Prospect theory helps fill in rational choice theory's the explanatory gap of why people sometimes make less than optimal choices. For greater discussion of prospect theory see Barbara Farnham, ed. Avoiding Losses and Taking Risks: Prospect Theory and International Conflict (Ann Arbor, Mich.: University of Michigan Press, 1994).
[38] Barbara Farnham, ed. Avoiding Losses and Taking Risks: Prospect Theory and International Conflict (Ann Arbor, Mich.: University of Michigan Press, 1994), 2.
[39] See Jack S. Levy, "Introduction to Prospect Theory," in Avoiding Losses and Taking Risks: Prospect Theory and International Conflict, ed. Barbara Farnham (Ann Arbor, Mich.: University of Michigan Press, 1994).
[40] Jack S. Levy, "Prospect Theory and International Relations: Theoretical Applications and Analytical Problems," in Avoiding Losses and Taking Risks: Prospect Theory and International Conflict, ed. Barbara Farnham (Ann Arbor, Mich.: University of Michigan Press, 1994), 141.
[41] *Ibid*., 141.
[42] Robert Jervis, "Political Implications of Loss Aversion," in Avoiding Losses and Taking Risks: Prospect Theory and International Conflict, ed. Barbara Farnham (Ann Arbor, Mich.: University of Michigan Press, 1994), 28.
[43] Brian M. Jenkins, "Is Nuclear Terrorism Plausible?," in Nuclear Terrorism: Defining the Threat, ed. Paul Leventhal and Yonah Alexander (McLean, Vir.: Pergamon-Brassey's, 1986).
[44] Jerrold R. Post, "Group and Organizational Dynamics of Political Terrorism: Implications for Counterterrorist Policy," in Contemporary Research on Terrorism, eds. Paul Wilkinson and Alexander Stewart (Aberdeen: Aberdeen University Press, 1989), 314.
[45] Joint Chiefs of Staff, Joint Pub 3-07.2 , II-3.
[46] Michael Smith, "Inside bin Laden's Nuclear Arsenal," London Daily Telegraph, 24 Dec 2001: Early Bird database.
[47] *Ibid*.
[48] David E. Kaplan and Douglas Pasternak, "Terror's Dirty Secret," U.S. News and World Report, 3 Dec 2001: Early Bird database.
[49] *Ibid*.
[50] *Ibid*.
[51] James Kitfield, "Nuclear Nightmares," National Journal, 15 Dec 2001: Early Bird database.
[52] *Ibid*.
[53] Report quoted in James Kitfield, "Nuclear Nightmares," National Journal, 15 Dec 2001: Early Bird database.
[54] Peter Grier, "Loose Nukes," Christian Science Monitor, 5 December 2001: Early Bird database.