

**Things You Should Know:**

**WMD, Weapons of  
Mass Destruction**

**Ian M. Johnstone-Bryden**



**Nighthawk**





## WMD, WEAPONS OF MASS DESTRUCTION







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**Ian M. Johnstone-Bryden**

**NIGHTHAWK**

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## 1. WMD

Since the terrorist outrages of 11<sup>th</sup> September 2001, there has been a great deal of use of the acronym 'WMD' and the phrase 'Weapons of Mass Destruction'. What these mean is not very clear.

Propaganda requires catch phrases and sound bites that can be used to trigger a psychological response amongst listeners. It can be an advantage if the phrases mean nothing specific, because politicians can make liberal use of the sound bite to cover all sorts of situations and non-situations. 'Weapons of Mass Destruction' implies the ending of the world, creating pictures of mushroom clouds from nuclear weapons and mountains of plague dead. It is hard to be sure whether poli-

ticians are just trying to cynically instil terror in their constituencies to obtain support for ill-defined actions that the electorate would otherwise refuse to support, or whether politicians are themselves in a state of terror, having just woken up to a reality that has been there for years.

Some believe that US rhetoric against Iraq is intended, not as a prelude to war but, to apply sufficient pressure to persuade the Iraqi regime to surrender weapons and weapons systems technology that could pose a serious threat to their neighbours. Of course if that were to be true, it would only work if the Iraqis believed that it was a real threat and that war was inevitable if they continued to hide weapons technol-

ogy. It also requires the Iraqi leadership to have some level of sanity and a strong instinct for self-preservation. If US pressure does succeed in persuading the Iraqis to disarm and to cease further development work, the precedent has been set for similar pressure to be applied in the future to any smaller nation that embarks on a similar path to that followed by Iraq for some twenty years at a cost of millions of lives.

The risk being run in the present confrontation with Iraq is that someone will not be sane and not care about self-preservation. If that proves to be the case, it is much better to bring matters to a head before the Iraqi regime has the ability to deliver potent weapons outside its own region. What

the average citizen is not equipped to judge is how far down the path to mutual destruction nations have advanced and how much time is left before the risk level rises to a critical point. It becomes a question of whether there is still sufficient time to develop anti-missile defences, strengthen homeland security, and develop effective intelligence capabilities. The danger of pre-emptive strikes is that they may not be early enough or that they are carried out before alternatives have been safely exhausted.

How 'Mass' is 'Mass'? Are 300 dead 'Mass'? Does the death count have to rise into thousands? If only a few hundred are killed by a gas attack, is this the use of a weapon of mass destruction? If

thousands are killed by crashing a plane into a building, or by using conventional explosives, are the weapons outside the category of WMD? Is the 'Ultimate Weapon' a Weapon of Mass Destruction?

## **2. The Ultimate Weapon**

By issuing a Papal Bull, a Mediaeval Pope sought to ban a terrible and ultimate weapon. The language was very similar to that used by nuclear protestors to describe nuclear weapons. The difference was that the Papal Bull referred to the pocket crossbow. To a Pope, or Cardinal, or secular leader, any lethal weapon that could be easily concealed by a terrorist of the time and used quickly and effectively was a major threat. Suddenly, they were

vulnerable to an assassin who carried real concealed firepower. Of course the banning of this weapon was not effective because once something has been invented it cannot be un-invented. This has proved the case ever since. What is also demonstrated is that even more effective weapons will be developed for similar purposes. Since the pocket crossbow, the handgun has become a far more deadly alternative. As measures to detect unauthorized handguns have developed, so too have the design and construction of handguns. Today, the equivalent of the pocket crossbow is a cellular telephone that has been modified to carry four bullets with firing mechanism and barrels strong enough to be

used several times. What that Mediaeval Pope would think of threats in the Twenty First Century is an interesting consideration and commentary on human development.

Even if major nations agree to decommission a particular type of weapon, some will cheat, and anyone might obtain the information necessary to build the weapon at a later date. The use of biological weapons dates back to ancient times when they were crudely used in the form of diseased carcasses hurled over the walls of besieged cities. The use of poison gas as a weapon was first proposed by Admiral Cochrane in the Nineteenth Century. It was used routinely by German and British forces during the 1914-18

War. During the 1939-45 War poison gas was only used by the Germans against concentration camp victims. Since then, chemical weapons have been used by US Forces in Indo China, and poison gas has been used by the Iraqis against the Iranians and Kurdish citizens in Iraq.

What has changed over the years is that the development of democracies and totalitarian states make it less likely that a single assassin can bring down a state by killing one person. If the leader is killed there are others to take his or her place and a democracy is as strong as its population. As a result the 'ultimate weapon' now has to be capable of killing a large number of people in a single attack, or in a series of co-ordinated

attacks. Therefore, a weapon of mass destruction might be anything from conventional explosives skilfully employed, through to large nuclear weapons. How many are killed in a single attack is less a question of the weapon than the delivery system and other circumstances. Poison gas lost some of its attraction in military use because it was uncontrollable once released, posing as great a danger to the user as to the intended victim. Biological weapons have posed similar risks to the user, again because the material can be dispersed unpredictably once delivered.

### **3. Conventional Explosives**

Since the invention of gunpowder, the terrorist has had access to a powerful weapon, capa-

ble of killing large numbers of people in a single explosion. The main challenge facing the terrorist is the bulk of the explosive. Guy Fawkes needed to move a large number of barrels of gunpowder into cellars below the English Parliament. We do not know whether he would have succeeded in his plans had he been able to set off the explosion but he would have caused a great deal of destruction. He was caught because the bulky explosives had to be pre-positioned, being vulnerable to discovery by anyone carrying out a methodical search of the area in the period from delivery to detonation.

Modern military explosives are considerably more powerful than Seventeenth Century gunpowder. Plastic

explosive, much prized by terrorists, has a very high power to weight and volume ratio and it can be moulded easily into shapes that disguise what it is. Obtaining plastic explosive is not that easy and terrorists are usually very careful how they use their precious supplies, often using it sparingly together with crude 'home-made' explosives, manufactured from readily available materials, such as fertilizer or weed killer.

The real challenge continues to be the method of delivery and the firing mechanism. What has made conventional explosives of much greater use to a terrorist is the concept of the vehicle bomb. A considerable amount of explosive can be packed into a vehicle that can be driven into a

heavily populated area and detonated. Most terrorists still have to pre-position vehicle bombs, and detonate them using remote control firing mechanisms or timers. This makes the bombs vulnerable to discovery and disarming. The suicide bomber has solved some of the problems because he is prepared to be the firing mechanism. Even if he is suspected before he reaches his intended target, he can kill a great many people with very little chance of being disarmed.

A large goods vehicle, loaded with forty tonnes of military grade explosive, and driven by a suicide bomber, can cause very significant damage in an urban area. If the bomber can detonate a huge bomb close to a fuel depot, or a similar

source of further potentially explosive material, it will devastate a very large area, causing damage similar to that caused by a small tactical nuclear device. The materials required for this type of attack are relatively easy to acquire and involve very little skill in assembly. Any group capable of bringing a number of very large vehicle bombs into a metropolitan area is capable of creating mass destruction.

A carefully planned attack could cause far more damage, using a handful of heavy goods vehicles, than round-the-clock attacks during World War II by thousands of aircraft. One reason for this is that conventional iron bombs dropped from aircraft have less than half their weight

made up by explosive, the remainder being made up by the casing and fins. Therefore, 40 metric tonnes of military grade explosive packed into a container truck would be equal to approximately 90 metric tonnes of air-dropped iron bombs. If allowance is made for aiming difficulties and fuse failures, a single heavy goods vehicle could be the equivalent of two squadrons of the most capable WWII heavy bombers. This means that potential terrorist use of conventional explosives should fall within the category of 'Weapons of Mass Destruction'.

#### **4. Incendiary Devices**

Fire can prove to be a terrible weapon. Turning it into a weapon of mass destruction is not

easy because, although the materials are readily available and easy to transport to the target, large volumes of incendiary material would be needed to create the type of firestorm that is capable of destroying cities and large numbers of people. If only a small number of devices were discovered and disabled, what would have caused mass destruction is reduced to a series of serious fires that can be contained and extinguished. There are however urban targets that are more vulnerable to fire attack. Those countries that have urban areas where most buildings are made of wood, and where they are surrounded by combustible vegetation, are potentially vulnerable to brush fires. These break out naturally in periods

of extensive dry weather, some caused by vandals, some by careless human action and some by natural phenomena. Any attacker who chooses a period of significant risk, typically during a prolonged drought with strong dry winds, could plant a series of fairly small incendiary devices in a carefully calculated pattern and triggered so that emergency services would be overwhelmed by the scope of the conflagration. If the attack was co-ordinated with other attacks, such as mining bridges and fire stations, a large urban area could be engulfed with major loss of life and asset value.

## **5. Fuel Air Weapons**

These weapons are sometimes referred to

as the 'poor man's nuke'. Irish terrorists are believed to have been working on the development and testing of this type of device in South America, either for their own use or for their coalition partners in terrorism.

Building and positioning this device presents many challenges. It is most effective when deployed as an air-dropped weapon that is delivered by parachute and exploded above ground. To be able to obtain full advantage, a terrorist would have to acquire a suitable aircraft and fly it over the target area, presenting considerable challenges and creating a window of vulnerability for the bomber. There are ways that this weapon could be deployed without an aircraft and be effective,

but this introduces risks to the terrorists from the need to pre-position the device.

A compromise is to use the technique employed for the September 11 attacks where aircraft with full fuel load were flown into buildings. This is much less effective than a true fuel-air weapon because the fuel was not atomised to achieve the optimum fuel-to-air ratio prior to detonation. However, it would have been possible to employ hijacked aircraft and suicide teams on the ground to cause very extensive damage across a large and heavily occupied city. Fortunately, terrorists having once used aircraft in a shock attack, generate precautions against hijackers and the introduction of air exclusion zones, making it very

much more difficult for terrorists to repeat that scale of attack, much less the more sophisticated air and ground attack where there would be a need to employ larger numbers of aircraft.

### **6. The Dirty Bomb**

The 'dirty bomb' is an interesting concept. Its objective is to spread long-term radiation across a large area, causing radiation sickness and denying the area to occupation until it has been decontaminated. The early nuclear bombs were highly radioactive and could be classified as 'dirty bombs', but subsequent development has concentrated on producing ever more powerful smaller nuclear weapons that are also cleaner. The reason for this is that military use of nuclear weapons is

not intended to deny an area to occupation but to destroy the enemy, physically and in his will to fight on. Nations have always been interested in re-using the target area in the nearest future possible. There has also been a desire to produce high yield weapons of small size to enable missiles to carry a number of warheads that are independently targeted and therefore much more difficult to destroy before at least some reach the target.

Today, 'dirty bomb' has come to mean a conventional explosive device that has radioactive material packed into its casing. On detonation, the conventional explosive distributes radioactive material over the area of the blast. This type of device is easily within

the capability of a terrorist to produce. The conventional explosive is already widely available. Radioactive material is harder to access, but much easier than many will think. Weapons and power centres have reasonably effective auditing and security systems. They are not totally invulnerable but they present major challenges, even to well-resourced terror groups. However, there are many other sources of radioactive material that present less of a challenge.

A terrorist attempting to build a contamination bomb also has a choice of other contaminants that can be used in place of radioactive material, or together with it. Materials, such as asbestos, could be used. Anything that could be dis-

persed by explosion, without being destroyed in the process, could be packed into the weapon. Any simple delivery system, such as a mortar, that projects the device and allows it to airburst, increases the effectiveness. Injuries and fatalities might not be initially significant, but the contamination would require the affected area to be closed to normal operations while decontamination procedures are undertaken. The uncertainty over long-term effects would create fear and could require extensive use of medical resources to screen all potentially affected people. The weapon might not cause large numbers of death, and those that did die might not show symptoms for decades, but there could be mass financial destruction be-

cause of decontamination programmes and the reluctance of people to live or work in the affected areas and areas potentially at similar risk.

### **7. Nuclear Devices**

The major risk of nuclear attack remains the nation state. In the early years of the nuclear era there was a balance of fear. Although Britain and France developed their own nuclear devices, there was little prospect that two democratic countries would initiate an attack on anyone unless it was part of a nuclear exchange between the USA and the USSR.

Since 1945 the nuclear 'club', of nations with a nuclear weapons capability, has steadily expanded and the potential for further increase is very great.

As new nuclear powers are in or around an area of instability, the threat of nuclear exchanges increases. The only thing that reduces this risk is the knowledge that America and its close allies hold considerably more weapons, of greater power and carried on very capable delivery systems. There is a clear understanding that this vast nuclear capability would be unleashed on new nuclear states that tried to deploy their own weapons. In the 1990-91 Gulf War, Iraq was under no illusion that they could deploy nuclear, chemical or biological weapons against anyone without being wiped out by a US nuclear strike. This made the elderly SCUD missiles ineffective against Israeli and Arab targets because the conven-

tional explosive warheads were a far less potent threat.

The question today is how far the deterrent effect of nuclear weapons, held by the US and the UK, can be relied on to prevent a rogue state from using its own newly acquired nuclear, chemical and biological weapons. As long as a country like Iraq or North Korea is assured of instant and total destruction, it is likely to try to find alternative means to achieve its objectives. Those advocating preemptive strikes on unstable or repressive regimes have a heavy burden of proof placed upon them. Much as a neo-colonial or expansionist policy may offer great potential benefits to the aggressors and some of the people in the target countries, the

risk is that action will escalate. The difficulty always lies in justifying why an attack should be made on Iraq but not on Somalia or Zimbabwe, on North Korea but not on Saudi Arabia. There is a considerable risk that once a programme has started it becomes very difficult to stop. Along the way, what is justification to some will not be justification in the eyes of others. The prospect exists for increasing instability, releasing a wide range of currently controlled threats.

Given the relationship of access to materials and international relationships, the threat of a nuclear exchange is still most likely between nation states and most unlikely to happen as long as one or more major democratic nations hold

overwhelming fire-power. What increases risks is the terrorist factor.

The nuclear weapon is an ideal device for terrorists who have little interest in occupying territory and much interest in launching maximum destruction on anyone they dislike. The fear has long been in intelligence circles that a terrorist would gain access to a nuclear device from one of the national armouries. This fear began to increase as the USSR began to break up and the poor levels of control over weapons became known. The threat is very real that someone could buy a viable and potent nuclear device from the former USSR armoury. There has particularly been a fear that some suitcase size devices developed

by the Russians for special covert action forces to use could be obtained by terrorists and prove ideal for their needs. Even tactical warheads could be used by terrorists without requiring any significant skills. Beyond this size of nuclear warhead, the challenge to the terrorist becomes one of delivery. That is not as much of a challenge as might be thought.

One of the major headaches for military planners during the Cold War was that an enemy could sail a vessel towards the entrance to a river or harbour and either drop a nuclear mine or scuttle the vessel with a nuclear device onboard. Sailing close enough without risk of discovery would be terrifyingly easy. If a number of devices were positioned around the

coast of any country and detonated to a careful plan, the scale of damage from tidal waves would be terrifying. What reduced the risk during the cold war was that NATO was unlikely to mine Soviet waters unless war was imminent. Soviet planners were considered to be only slightly more likely to act ahead of the final run in towards fighting. There was also a practical difficulty in that the early pre-positioning of nuclear sea mines presented challenges in accurate control over detonation and a possible need to recover or replace a device after a certain period. In addition, there was the risk that storms and currents could move a carefully positioned device away to a location where it would not achieve the desired

effect or might be discovered prior to detonation, or where the device could be accidentally triggered.

The nuclear sea mine is a much more dangerous threat if it became available to terrorists. With terror campaigns there is no similar period of heightened tension, warning of increased risk, during which security watches are increased. A device could be delivered anywhere, at any time, and detonated at will. If the delivery vessel was to be crewed by people prepared to die in the process, it would be very difficult to identify and stop the vessel before it came close enough to a populated port or coastline. The terrorists would have ample time to trigger the device before they could be boarded and

the bomb disarmed. Unless the vessel could be attacked some distance from land, there would be a serious risk to those on nearby shores.

## **8. Chemical Weapons**

Chemical weapons come in a variety of types and many are very easy to produce without sophisticated production equipment. One common group of chemical weapons includes varieties of poison gas. These can extend from gases that are intended to disable, such as CS gas, and are most frequently used by riot police. As was seen when disabling gas was used to release terrorist hostages in Russia, even gases intended to disable can actually cause permanent injury and also kill. Beyond

these gases, there are gases that are intended to incapacitate on the battlefield. They may cause serious and prolonged illness. Although they are not intended to kill fit young soldiers, they could cause deaths in a typical civilian population, particularly affecting the very young, the old, and those with poor health. Finally there are the lethal gases, including the dreaded nerve gas. As all of these gases have been in use, or stored as a deterrent, there are a lot of people who are familiar with their capabilities and understand how to handle them. As most of these gases can be produced with limited equipment, there is no need for a terrorist to depend on having to steal a supply. Added to this there is a fear that a rogue state might sup-

ply military grade weapons to terror groups.

The main risk reducer with gas weapons is the need for an effective delivery system and very careful planning. Introducing poison gas into a building is not any more difficult than planting an explosive device. In some respects it is easier because the terrorist could enter the building, or a public transport vehicle, wearing protective clothing and releasing the gas, removing the problems associated with pre-positioning devices and triggering them remotely or by timer. Outside a building it is a greater problem. Tunnel systems, such as underground train networks, have to be fully understood if an attack is to cause major de-

struction. In a large city area, poison gas can be a very unpredictable weapon. In theory, all the attacker has to do is check the wind direction, chose a suitable location outside the target area, release the gas, and let it drift across the target on the wind. In practice, a great many things can go wrong, the most obvious being that the wind changes direction and blows the gas away from the target area, diluting the gas below lethal, or even harmful, proportions. Even where the wind obligingly maintains its direction and carries the gas into the target area, buildings can create many unpredicted changes in gas dispersion and will provide some protection for the occupants. None of this might dissuade a terrorist because the

horrifying fact that someone had spread poison gas in a populated area could cause mass panic even if it did not cause mass destruction.

The other chemical weapons present different risks and challenges. Poisoning food is very easy to do provided the objective is to cover a small group of targets. The practicality of poisoning large quantities of food to justify the description of 'weapon of mass destruction' is highly dubious. The poisoner is likely to be discovered, and the contaminated food withdrawn, before large numbers of people could be affected. What is more likely is that poison is added to a mains water supply. A planned attack on a number of mains sys-

tems, simultaneously, could result in widespread damage with very large numbers of people suffering effects from severe discomfort, to death. The large area covered by mains water networks and reservoirs makes them potentially vulnerable to attack. Making that attack effective is another matter. For greatest effect, the terrorist would have to introduce the agent into the water supply so that it is fully distributed throughout the system before anyone realizes what has been done. The most effective point on any system for the introduction of a poison is at water treatment plants. Being able to access enough of these plants, and keep the penetration secret until large numbers of people have used the water, presents a terror-

ist with a series of considerable challenges. The other major challenge is in ensuring that the agent is introduced in sufficient quantities that it cannot be diluted below the level necessary to maintain its lethality.

## **9. Biological Weapons**

Biological weapons are perhaps the most terrifying threat. When a virus spreads naturally it is very difficult to deal with. Common viruses like influenza regularly disable large numbers of people and can kill a great many of the most vulnerable. The frightening aspect of deliberate biological attack is that there is no advanced warning and a number of very different agents could be used at the same time. Where the natural

spread of virus shows peaks and dispersion patterns that are repeated over many years, it is possible to plan medical responses to best combat the spread of the illness and to vaccinate those yet to be exposed. A deliberate attack will not follow this set of patterns. The terrorist can simultaneously attack a series of population centres around the world. No one may know anything until suddenly there are hot spots of infection all over the place. Resources will not be adequate and there will be no way of predicting with any accuracy how the resulting epidemic will progress. Chillingly, the recent outbreak of Foot and Mouth in British livestock shows just what could happen to livestock and people during

a biological attack. In the case of the FMD epidemic in Britain a national disaster developed because of an unbelievable level of Government incompetence, but the root of that incompetence was a failure to understand how the agricultural industry raised and sold livestock. Amazingly the Government did not know that farmers routinely moved livestock the length and breadth of the British Isles, with specialist farmers taking livestock at particular stages of the life cycle from birth to slaughter. This gives some indication of the damage a biological weapon could cause because there might be a series of attacks, each taking multiple selected targets, presenting no clear pattern of attacks and defeating efforts to pro-

tect those not already infected.

It has been claimed that weapon delivery presents huge problems and there would be a need for very sophisticated production facilities. The anthrax attacks in the USA demonstrate that these challenges have been significantly overrated. There might be some difficulty in obtaining suitable initial material, but developing agents from the starting stock is school grade science technology. Production facilities for small-scale production could be set up with ease in private houses, small factory units, and in the countryside. The illegal drug trade demonstrates just how easy it is to establish illegal laboratories. Police rarely discover the production facilities un-

til the drugs are on the street and they can work back up the chain to the chemists. Terrorists culturing biological weapons have no large retail dealer network that can be infiltrated or observed. The only warning might be when people begin dying of mystery illnesses.

Perhaps the only effective deterrent is the unpredictability of biological weapons. Some potential weapons are virulent and potent in the extreme, defying all efforts to develop effective vaccines. This means that the attacker could become a victim of his own weapons. Over time, the agent that he releases could circle the world, mutating as it went, eventually seeking out the family and friends of the attacker. Of those agents for which an an-

tidote exists, the side effects of the antidote can be as severe as the agent it protects against, at least for some people. As a result, only the insane would deploy the most terrible biological agents, holding out the prospect that, after the initial shock of an attack, precautions could be taken against future attacks and infected victims could be treated with some prospect of success for many of them.

## **10. Reducing the Risks**

There are a number of things that we can do to reduce the risks and also to reduce other risks at the same time. Making our homes and work places more secure will protect us against terrorists and other criminals. Fire precautions protect



against all fires, however they are started. Making sure that the people we talk to, or admit into our homes and work places, are who they claim to be. Being observant is effective, both in directly avoiding risk, and in helping police to track down malefactors. Being thoughtful, and not leaving luggage unattended, directly benefits us, and avoids panic in others who may suspect a bomb. Hoax incidents and carelessly unattended packages in public places stretched the emergency services and could mean that the real attack goes unnoticed.

For an increasing number of people it will prove practical to work from home, thus avoiding the use of mass transit systems and large cities that could be targets of ter-

rorist attack. However, it is not a good idea to work from home simply to avoid attack because that can so easily develop into a reclusive situation where we become our own prisoners. In the process we may not reduce the level of risk because the chances of an aircraft falling on our home may be as great as the risk of a bomb exploding in our work place or gas being set off in a train carriage or a cinema.

Crime prevention not only protects us from loss and damage caused by ordinary criminals, but it denies access and assets to terrorists. Car bombs are frequently built with vehicles stolen for the purpose. Stolen documents and credit cards cause us loss and inconvenience but they can

also help a terrorist to establish a false identity and gain access to a location from where an attack can be launched.

Observation is the most dangerous weapon against a terrorist. Noticing suspicious acts and reporting them to police can prevent an outrage and result in the apprehension of the terrorist thugs. Provided that there is an effective intelligence analysis system in operation, several reports from members of the public, each of apparent low significance, can produce intelligence that allows terrorists cells to be identified and neutralized.

Whatever measures we take should be realistic. There is little point in carrying a gas-mask if there is no way of sensing a gas attack, or if the gasmask is not

designed to protect against the gas that is actually used. Private transport is generally safer than public transport from terrorist attack, but it could make us vulnerable to greater risks and costs. The best measures are those that make the least impact on our normal life and form a natural habit. More intrusive measures soon become too inconvenient and are dropped, possibly at the time when we are most at risk.

## **11. Duration of Terrorist Risks**

War between nations has a definable duration. From history, we can see that few wars last more than six years without some sort of break, however temporary. In recent times, wars have been meas-

ured in months, and sometimes days. Terrorism however can continue for decades and even centuries. Unless every terrorist is removed, the survivors can continue, or restart their campaigns. Even if every terrorist was removed, the idea of terrorism could flare up again with a new generation. Religious wars can continue for millennia, never being completely extinguished, and flaring up to a new intensity periodically. The current round of terror includes a coalition of groups that have a wide range of primary objectives between them, having only a desire to create terror as a common ground. Many of these groups actually have conflicting objectives but that has not stopped them working together.

Even when there is some form of ceasefire, or apparent defeat, we can never be sure that all terrorists and their weapons have been removed or neutralized. As in Ireland, there have been periods of peace and then terrorists and criminals have begun using the old weapons, hidden since the last active phase, buy and develop new and more powerful weapons, only to fade into the background when the tide of opinion and counterinsurgency turns against them.

## **12. So What is ‘Mass Destruction’?**

As we can see, ‘mass’ and ‘destruction’ are relative terms, where one person’s perception of what they mean can be very different from another’s perception.

Fear of fear can itself become a very destructive force. Some may be severely shocked by the violent death or injury of a single person. Others may see 'mass' as applying only when thousands of people are wiped out by a single act of terrorism. 'Mass' can also mean that something is widespread, each instance affecting relatively small numbers of people, but cumulatively resulting in widespread, or mass, destruction.

Similarly, 'destruction' can mean many different things. If a single large nuclear weapon were to be detonated, it would completely remove a large urban area, together with its population, in an instant. There would be significant destruction well beyond the primary

area of the explosion. Radiation would contaminate the ground well beyond Ground Zero, and circulate in the atmosphere. For example, radiation from the nuclear power station disaster at Chernobyl has blanketed much of Europe and will continue to contaminate milk products and meat as far away as Britain for decades, because the very grass has been contaminated. A number of large nuclear devices are believed to be capable of causing a nuclear winter that could continue for hundreds of years. In anyone's language that would be 'mass destruction' but unlikely to be within the capability of a terrorist group.

The reality is that terrorist action, and even the actions of rogue states, are likely

to produce a very much lower order of physical destruction. However, what this overlooks is that destruction does not have to be directly of people. If a naturally occurring outbreak of Foot and Mouth amongst British livestock can cause major disruption for a year, cost more than £10 billion, result in the slaughter and disposal of millions of animals, and demonstrate monumental government incompetence, it does not require any great imagination to understand the scale of destruction a deliberately triggered outbreak of Foot and Mouth would cause. A number of relatively small conventional attacks on one or more financial centres might not cause any great loss of life, or even major destruction of property, but it could

lead to a world-wide recession, or make an increasing recession suddenly very much more destructive.

Terrorism is itself a Weapon of Mass Destruction because it seeks to destabilise an existing social and political order. That creates a situation that is inherently unpredictable. One Balkan terrorist, armed with a simple pistol, triggered a chain of events that directly led the nations of Europe to begin a war that was to last five years, spread around the world, and create the conditions that would lead to a second world-wide conflict. Together, these events, triggered by a single pistol, were to directly result in more than 20 million dead, the destabilizing of great nations, the re-ordering of international affairs and the de-

velopment and deployment of the first nuclear weapons.

### **13. Effective Countermeasures**

We can each take some steps to reduce the risk that we each face. Some will wish to take much more extensive steps, either because the risk is greater for them, or because they are naturally more risk averse. The most effective counter measures are for us to become active citizens, participating in the democratic process, ensuring that we are represented by politicians who are honest and competent in all matters, listening to our wishes and working with other governments to address the new threat of global terrorism.

The most important measure that gov-

ernments can take is to operate effective counter-terrorist intelligence services. To be effective, this requires not more intrusive government, snooping on all citizens, but processing effectively and quickly all the information obtained from targeted sources. One of the great dangers is that governments will become confused and see the relative ease with which they can employ new technologies to spy on every citizen as the solution. That may raise many very legitimate civil rights questions, but the greatest danger is that so much irrelevant information will be collected that it will swamp the intelligence analysts, hiding vital warnings of real terrorist activity. It should be remembered that recent outrages in a number of

countries have followed a series of warning signals that were missed because the analysis was either not done, or not completed in time to take precautions. What is needed is careful targeting and infiltration of known groups and the close monitoring of those groups that cannot yet be penetrated.

There is also a need for effective sanctions. The 'suicide bomber' is particularly hard to deal with because death holds no terror for the bomber. Therefore, the personal risks which are avoided by other types of terrorist, and which make the act of terror that much more difficult to perpetrate, do not affect the suicide bomber. This raises many issues because the suicide bomber has a form of

religious belief that creates the expectation of eternal bliss for those dying for their cause, but the same belief includes vulnerabilities. One of those vulnerabilities comes from the treatment of the corpse. This has been exploited in history but may be difficult for a modern liberal democracy to accept. However, a terrorist who has beliefs that include concepts of contamination and the effect it has on the soul after death might be deterred if there was a certainty that his or her body would be deliberately contaminated after death and that capture would include execution and contamination, so destroying the terrorist's eternal soul. That of course is one of the many moral conflicts presented to liberal democracies by ruthless



terrorists who would exploit every possible vulnerability in their victims without even pause for thought.





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