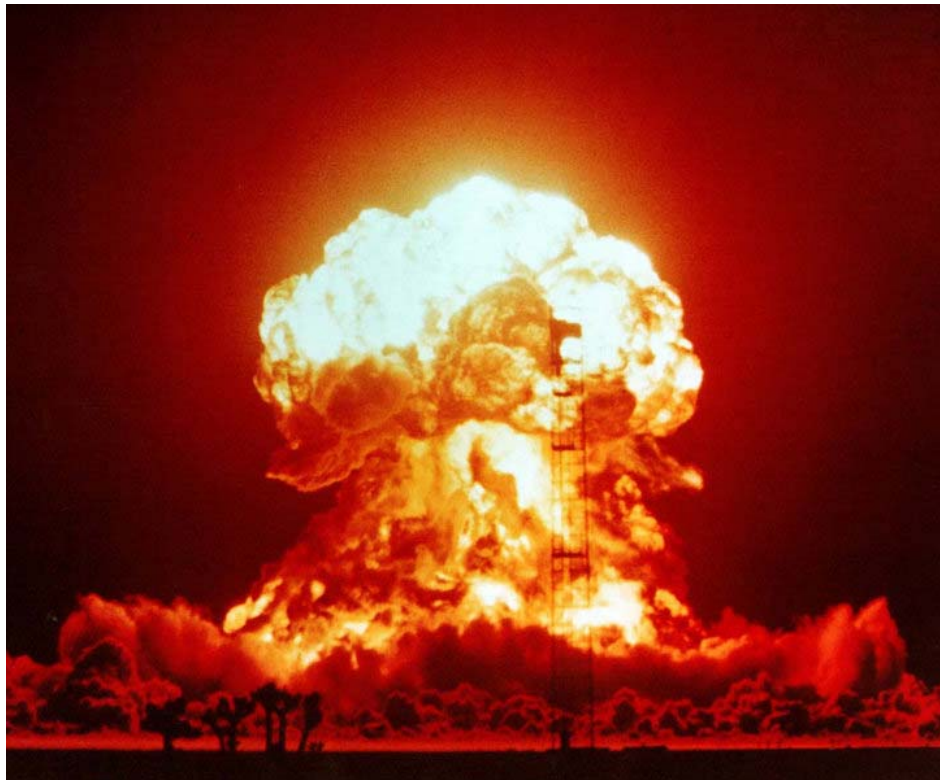




UNDER THE SHADOW



BY JEFFREY BENNETT

DEDICATED TO
COLONEL STANISLAV EGRAFOVICH PETROV, RED ARMY (RETIRED)
WHO SAVED THE WORLD FROM NUCLEAR DESTRUCTION
ON SEPTEMBER 26, 1983

AND ALSO TO ALL THOSE WHO KEPT US FROM WORLD WAR III,
BOTH AMERICAN AND SOVIET,
WESTERN AND EASTERN,
CAPITALIST AND COMMUNIST
DURING THE NUMEROUS INCIDENTS
WHEN WAR MIGHT HAVE BEEN DECLARED.

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INTRODUCTION

The Cold War, with the inherent fear of a nuclear holocaust, is over. Communism has fallen; democracy prevailed. The Soviet Union has been dismantled into fifteen separate nations, and both the former USSR and the United States have cut back on their nuclear stockpiles. The world has been made safe, and we don't have to worry any more about nuclear weapons, right?

Wrong.

While the Soviet Union is gone, the threat of nuclear war still remains. North Korea has announced that it has nuclear missiles. Iran has a nuclear weapons program. China, not yet an enemy but still not a friend, has nuclear missiles preprogrammed to launch on numerous American and Russian cities, as during the Cold War, communist China was against the Soviet Union and also against the United States. India and Pakistan, rivals since the British left after World War II, have both tested nuclear weapons. A war over the Kashmir region could quickly go nuclear, and the United States would likely be pulled into the conflict, although which side the United States would support is unknown, since America is friendly to both nations.

Israel has nuclear weapons, and is always under attack from Palestinians. If Israel used a nuclear weapon on the Palestinians, the repercussions would be severe and long-reaching. Most European countries formerly had nuclear weapons or were developing nuclear weapons, and could easily get nuclear weapons if they tried. Both Brazil and Argentina had a nuclear weapons program, as did South Africa and Egypt.

Unfortunately, the end of the Cold War created a large group of unemployed ex-Soviet nuclear scientists, who would be more than willing to sell Soviet nuclear weapons (Russia has notoriously failed to keep track of the Soviet-era nuclear weapons) and their expertise at a low price to the highest bidder. After all, they are unemployed, and they need money to survive. The United States has hired many of these scientists to live and work in the United States; not only does this strengthen America's nuclear program but it keeps the scientists out of the hands of the terrorists.

Many terrorists, however, have the money to hire these nuclear scientists and/or buy Soviet nuclear weapons. Al-Qaeda, for example, is headed by Osama bin Laden, who

– before the September 11, 2001 attacks on the World Trade Center when the United States Government froze his funds – had the money to “purchase” these nuclear weapons or scientists.

My purpose in writing this is not to scare the United States into another Cold War, or another arms race, but instead to warn that the nuclear threat has not yet passed, and we should remain vigilant and wary.

Jeffrey Bennett
Salt Lake City, Utah
February 2006

THE DANGER OF NUCLEAR WEAPONS

Nuclear weapons are inherently dangerous. There is no other way to describe them. A nuclear explosion destroys everything around it, makes the ground radioactive and non-hospitable, and sends up clouds of nuclear fallout, small radioactive grains of sand or dirt that is virtually undistinguishable from uncontaminated soil. Fallout is one of the largest dangers of a nuclear explosion, as it spreads the radiation to places that would otherwise not be affected. However, fallout is carried by the wind, meaning that if the wind is out of the southwest when an explosion occurs, areas 250 miles northeast of the explosion may be severely contaminated while areas 100 miles southwest will remain relatively unharmed.

A Google search of “Fallout Calculator” returns the Federation of American Scientists’ Java-based Fallout Calculator shows that a Soviet “Tsar Bomba /Царь-бомба” hydrogen bomb with a yield of fifty megatons, dropped on Washington with the wind out of the southwest and blowing at fifteen miles per hour, will cause fallout that will cover Philadelphia, eastern Pennsylvania, Delaware, and most of the states of Maryland and New Jersey in four days. If we assume that weapons were also dropped on Richmond, Norfolk, Washington, Baltimore, Philadelphia, New York, Hartford, and Boston, (and that these were the only cities attacked) the “red zone” of nuclear fallout would cover the entire east coast north of Norfolk, while cities in North Carolina would remain relatively safe. However, it is more likely that if a Tsar Bomba/Царь-бомба was dropped on these cities (or even weapons with smaller yields), they would also have been dropped on cities such as Raleigh-Durham, Winston-Salem, Charleston, Jacksonville, Miami, Atlanta, and Montgomery, completely saturating the eastern seaboard in nuclear fallout. If the eastern seaboard was attacked, the Great Lakes region, the western seaboard, and all major military installations in the United States would also be attacked and *ipso facto* saturated in nuclear fallout.



Nuclear weapons can also be exploded underwater, as was proven by Operation Crossroads in 1946. Some propose that these weapons would make a good tactical weapon – the US Army even had stockpiles of tactical nuclear weapons ready to deny the Warsaw Pact access to key invasion routes through Germany, and France’s *force de frappe* was a key part of the balance of power during the Cold War. The *force de frappe* policy was aptly stated by Charles de Gaulle:



“Dans dix ans, nous aurons de quoi tuer 80 millions de Russes. Eh bien je crois qu'on n'attaque pas volontiers des gens qui ont de quoi tuer 80 millions de Russes, même si on a soi-même de quoi tuer 800 millions de Français, à supposer qu'il y eût 800 millions de Français.”

Translated into English, the above statement becomes:

“Within ten years we shall have whatever is necessary to kill 80 million Russians. Well I believe one does not light-heartedly attack people who are able to kill 80 million Russians, even if one can kill 800 million French, that is if there were 800 million French.”

The *force de frappe* included French land-based, air-delivered, and sea-launched missiles, with the army using mobile launchers, the air force using long range fighter bombers, and the navy using “boomers”, or missile submarines.

The deterrent force for NATO (including the United States and Great Britain) ran on the same principle, also known as *Mutually Assured Destruction*, or MAD. The idea behind MAD that if an attack was launched, the defenders (usually NATO in the simulations) could launch their missiles almost immediately after the alert was sent out and completely destroy the entire enemy nation. When calculations showed that a certain



area would not be rendered uninhabitable by radiation or fallout, an older missile would

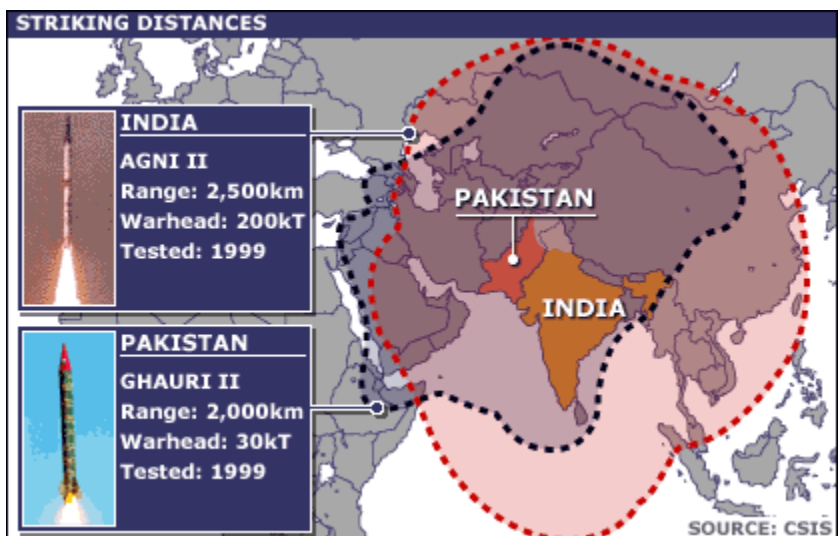


be redirected for that area and a newer missile aimed for the previous target, to that the entire country would be destroyed. During the peak of the arms race, both sides had enough warheads to destroy the entire world. The force of all of the

nuclear weapons exploding at once (as they would be set to do) would penetrate down into the core, causing the literal destruction of the earth.

Unlike most other weapons, nuclear weapons can be delivered quickly and easily using a number of techniques. A nuclear warhead could be sent on a missile launched from a silo, launched from a submarine, from a truck, or on a ship. This makes stopping a nuclear attack almost impossible, especially if launched from directly off the coast of the targeted country.

The Democratic People’s Republic of Korea, or North Korea, is currently using what is known in the United States as “nuclear blackmail” to attempt to force South Korea, Japan, and other neighboring nations to do what the North Korean government wants them to do. With an irrational leader such as Kim Jong-Il of North Korea, a nation using nuclear blackmail can be a dangerous threat. Iran is currently working



on what it calls a “peaceful nuclear energy program”, yet Europe and the United States

fear it is developing a nuclear weapons program that could potentially be used to nuclear blackmail Iran's neighbors, including Iraq, Afghanistan, and Saudi Arabia.

It is also feared that a conflict between India and Pakistan would go nuclear, as both nations have a long-lasting animosity towards each other, a border dispute over the Kashmir region, and nuclear weapons.

PROTECTION FROM A NUCLEAR EXPLOSION

There is little or no protection from the explosion itself. At “ground zero”, most of the surrounding area becomes a radioactive crater with almost no survivors. However, the likelihood of a nuclear attack is relatively slim.



For most of the nation, nuclear fallout is a larger risk than a nuclear attack, as most nations that would attack the United States do not have the capability (unlike the former Soviet Union) to attack cities other than the largest and most important cities such as Washington, D.C., New York City, Los Angeles, Chicago, Houston, and Philadelphia. Other places upwind from these cities are most at risk. Nuclear fallout is radioactive dust and dirt created in a nuclear explosion. This fallout, carried by the wind, can contaminate far-away areas that would otherwise have remained uncontaminated. This means that most of the nation is at risk from nuclear fallout.

A fallout shelter is a room buried under at least a meter of dirt. The ramp to the entrance should be at a right angle to the door and the entrance should be underground. Two doors are needed for an effective entrance, and a spare entrance is of course advised. A ventilation shaft is one of the most vital pieces of a fallout shelter, as without it temperatures could get unbearably hot and the inhabitants could die of overheating. A fallout shelter does not need to be very elaborate, yet functional and be able to keep a certain number of people (the number of people depends on the shelter’s capacity) alive and fallout-free for a certain number of days, usually at least two weeks without opening the outer door of the shelter. The citizens of most areas that receive enough fallout to need shelters yet are far enough away from the explosion to evacuate after three weeks should do so



and go to the nearest “uncontaminated zone.” If not, people should sleep in the fallout shelter for several months until the ground has been decontaminated.

If you live near one of the aforementioned big cities, there is very little chance that if a nuclear attack is launched against that city that you would survive. However, the



hope that the air force’s Airborne Laser Laboratory system which successfully shot down test missiles in the 1980s could be used to intercept incoming ballistic missiles. The Navy also used Aegis destroyers to shoot down incoming test

missiles, and the Army has developed an anti-ballistic missile system. Whether or not these systems would actually work in the event of a Iranian or North Korean nuclear attack is unknown – they have performed well in tests but have never been proven in combat. The only American anti-ballistic missile system that has been proven in combat is the MIM-104 Patriot, known for shooting down Iraqi “Scud” missiles during the Gulf War.

CLOSE CALLS IN HISTORY

There have been many “close calls” involving American and Russian/Soviet nuclear weapons. If even one of these had developed into a nuclear war, most of the citizens of the United States, the United Kingdom, China, France, Germany, Russia, and Australia would be dead or contaminated. The public remains woefully unaware of how close we came to fulfilling the Mutually Assured Destruction policy. Here, therefore, are the twenty-two closest calls (in chronological order).

1. On November 5, 1956, the British and French forces were attacking Egypt over the Suez Canal, and Soviet leaders proposed to the United States that the two superpowers join forces to force the British and French out of Egypt, and told the British and French that non-nuclear rocket attacks on London and Paris were being planned. That night, as the world worried about the crisis in the Suez, North American Aerospace Defense Command (NORAD, responsible for the protection of the United States and Canada) received word that the Soviet fleet was heading into the Mediterranean. Then another report came in – a British Canberra bomber was down over Syria, and Soviet MiG fighters were flying over Syria. Another report came in soon after – unidentified aircraft were flying over Turkey. Immediately NORAD issued the warning that the Soviets might be launching an attack. However, since the Soviets had just proposed cooperation, the NATO forces refrained from launch.

What had caused these reports?

- The Soviet Fleet was doing routine exercises and had notified the United States Navy of these exercises.
- The Canberra bomber was down because of mechanical difficulties, and soon continued on its flight.
- The President of Syria was returning from Moscow, and had an escort of MiG fighters.
- A flight of swans was flying over Turkey and had been mistaken for aircraft on Turkish radar.

2. On November 24, 1961, all communications between NORAD and Strategic Air Command went down, a possible precursor to a Soviet missile attack. The B-52 crews got

into their planes and started their engines, ready for a night raid on the USSR. The communications had many redundant circuits designed to prevent an accidental loss of communications. An orbiting B-52 on standard patrol reported that no attack had or was going to take place – the Soviets were having a normal day.

Later, it was discovered that all of the communications lines passed through one relay station. An overheated motor had cut all of the lines and caused the loss of communications.

3. On August 23, 1962, an American B-52 made a navigation error and strayed within 300 miles of Soviet airspace, which the Soviets saw as a precursor to an attack. When the B-52 turned back towards the United States, the Soviets realized that it was most likely a navigational error, which it was. The B-52s stopped flying that route soon after.

4. During the Cuban Missile Crisis of August and October 1962, a U2 reconnaissance flight was ordered to fly over the North Pole, where you needed a sextant to navigate. The northern lights prevented good sextant readings, and the U2 strayed into Soviet airspace. The Soviets launched MiGs with orders to shoot down the U2. The Americans ordered the U2 to turn east and return to the United States. When the U2 ran out of fuel over Siberia and had to glide to Alaska, the USAF sent F-102A fighters to escort him into US airspace. If a MiG had gotten too close, a F-102A were allowed to and could have launched tactical nuclear missiles at the MiG. The U2 pilot returned to Alaska safely.

5. A Soviet satellite exploded in orbit on October 24, 1962 and created a radar image that looked like an ICBM launch. If the US government had not been notified of the satellite's explosion, the policy of MAD would have required an immediate counter-attack.

6. The next day, an "intruder" at a Duluth, Minnesota set off a sabotage alarm. This alarm was wired wrong and activated an alarm ordering F-106A interceptors into the air with nuclear warheads. The pilots believed World War III had just started, as the nation was on high alert. A car drove out onto the runway and stopped the launch of the interceptors, where they were told it was just an accidental alarm. The intruder in Duluth was a bear who had wandered in.

7. October 26, 1962 was a day filled with many close calls. The first occurred at Vandenberg Air Force Base when the Titan missiles were refitted with nuclear weapons. One missile was not refitted, however, and launched as a test missile. Luckily, the message was passed to Moscow that it was a test before the Soviets could launch a “counterattack.”
8. Another Titan test launch that same day, this one from Florida to the South Pacific, placed US forces on alert when a radar station noticed a ballistic missile, potentially Soviet, that could possibly hit the southern United States. Only when it was charted out and the radar station announced the missile was flying in such a way that the United States was not in any danger did Air Force officials realize it was the same missile as the one they had launched that same day.
9. Still on October 26, 1962, as older missiles were being readied for launch, the all of the equipment was inadvertently activated and placed in the silo. It was then possible for a single operator to start a nuclear war by launching all of the missiles.
10. During the Cuban Missile Crisis of October 1962, a general NATO alert was not issued, meaning that local commanders placed their commands at whatever alert level they felt best suited the problem. Some commanders went so far as to place their commands at alert levels so high, only one word from a superior officer could have launched war.
11. During October 1962, the British were placed on alert as a result of the Cuban Missile Crisis. The alert coincided with a British bomber exercise. It is possible that the Soviets could have taken this as a sign of an attack.
12. On October 27, 1962, the Soviet submarine *Foxtrot B-29* was located by the destroyer USS *Randolph* and pummeled with depth charges. The captain and political officer wished to fire a nuclear-tipped tactical missile at the destroyer and escape, starting World War III in the process. Commander Vasili A. Arkhipov, who was required to give his assent to the decision before a missile could be launched, refused to authorize the launch and soon orders from Moscow came saying any launch would be punished in the Soviet Union as well as by the United States. This is an example of how requiring a unanimous decision by three officers to launch a missile helped save the world.

13. Just before 9 am on October 28, 1962, the same radar station that had mistaken the United States Titan missile for a Soviet ICBM was running a simulation of an attack from Cuba. As a satellite came over the horizon, the computers recorded it as an anomaly and combined it with the simulation run, reporting that a real ICBM would hit Tampa at 9:02. NORAD was notified, but before a counterattack could be launched, NORAD realized it was 9:05, and the computer error was solved.

14. On the same day, a new radar station in Texas reported the same satellite to be two missiles inbound over Georgia and notified NORAD. When no impact was reported, NORAD decided the error was due to a computer bug in the new station.

15. On November 2, 1962, the CIA received a message from an agent in Moscow that an attack was imminent. However, the agent in question, Col. Oleg Penkovskiy, had been arrested by the KGB on October 22 and most likely divulged the information about the message while under interrogation.

16. Numerous power failures in November 1965 set off faulty bomb alarms, designed to record and transmit data on bomb impact in the milliseconds before being destroyed by the blast. When it became obvious that no impact had taken place, the authorities recalled the bomb alarms.

17. On January 21, 1968, a B-52 crashed near Thule Air Force Base. Fortunately, the nuclear weapons carried by the strategic bomber did not explode, or else it would appear as if a Soviet missile had hit the base.

18. While the Israelis and the Egyptians were fighting on October 24, 1973, it was believed that the Soviets would intervene to protect the Egyptians, which would mean NATO would have to intervene on the Israeli side. Nixon ordered the military to alert, which the Soviets duly noted. If the Kremlin had not guessed that this was meant to discourage them from assisting the Egyptians, the result would have been war.

19. At 8:50 am on November 9, 1979, NORAD reported numerous missiles heading for the United States. In reality, a computer test had caused the "Soviet missiles" to appear on-screen.

20. In June 1980, faulty NORAD computer chips recorded Soviet missiles heading for the United States. The numbers of incoming ICBM missiles changed from zero to 000002, 000022, 000222, 002222, 022222, and finally 222222. After this

happened again, it was determined that it was a faulty computer chip. The chip was replaced.

21. Lt. Col. Stanislav Petrov was on duty at the Soviet early-warning bunker south of Moscow on September 26, 1983 when the computers reported a missile launch in the United States and tracked the missile towards the Soviet Union. Petrov believed that the US would not launch only one missile if they attacked the Soviet Union, instead believing that the US would launch numerous missiles, and refused to authorize a counterattack. The system was rebooted and the “missile” disappeared off the screen, having been an anomaly in the computer. This event came soon after Korean Airlines Flight 007 was shot down after accidentally straying into Soviet airspace. Petrov has only recently been honored for single-handedly preventing a nuclear holocaust, but has been honored by many as his story has been spread.

22. The Russian early-warning system picked up an incoming missile on January 25, 1995, and estimated it would be over Moscow in five minutes. The Russian President, Defense Minister, and Chief of Staff quickly entered the emergency bunker. It turned out that the “missile” was a Norwegian rocket carrying scientific measurements to space, and had notified 35 countries (including Russia) of the launch on January 16.

As is obvious, the world has come close to nuclear holocaust over twenty times. It is estimated by the Project of the Nuclear Age Peace Foundation that even if the chance of disaster was only 1 out of 100 each time, there is less than an 18% chance that none of these situations would have started nuclear war. If the risk would have been a more realistic 1 out of 10, then there would be a sixty percent chance that war would have started after no more than seven of these incidents. The world has been truly lucky to have survived these incidents. Even when it seems trivial, one wrong move would have resulted in the launching of nuclear missiles and the death of millions of innocent people.