

## **IS ACCIDENTAL NUCLEAR WAR IMPOSSIBLE?**

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According to our Foreign Minister, accidental nuclear war between Pakistan and India cannot occur. In a statement to the APP on November 29, Mr. Sartaj Aziz said emphatically "I see no possibility of an accidental nuclear war between Pakistan and India.... Pakistan has an effective command and control system".

This categorical statement is shockingly unscientific because it presumes complete fore-knowledge of all future crises and exigencies, a complete understanding of all the possible mechanisms that could lead to a nuclear exchange, and complete confidence in India's command and control system as well as that of Pakistan's. Further, it asserts that human error, misjudgment, and miscalculation are impossible. Unfortunately, not a single assertion or presumption is logically or scientifically sustainable. On the contrary, there have been numerous tragic incidents in India and Pakistan that prove accidents and miscalculations are far from rare. At best the Minister could have argued that the probability of accidental nuclear war is small. Even though this assertion too would have invoked many questionable assumptions, nevertheless it could have been defended with some degree of plausibility. As it stands, however, the statement is factually and scientifically wrong.

It not my intent to split hairs on an abstract academic discussion of the improbable versus impossible. The issue is far too serious for that. One need merely note that nuclear war by accident was never derided and dismissed during the years of US-Soviet nuclear confrontation. On the contrary, both sides took this possibility very very seriously. To avert a false move during those five long decades, the two giants spent trillions of dollars acquiring the most sophisticated forms of intelligence gathering by satellites, aircraft, ships, and submarines. The data from these were continuously analyzed using computers equipped with artificial intelligence programs. This enabled both sides to know each other's level of readiness for combat, and know in advance preparations for a nuclear strike. Without such an elaborate command and control system a doomsday nuclear confrontation may well have occurred out of fear or suspicion.

Of course we know that a US-Soviet nuclear war did not occur, but the danger had never been far away. In spite of every possible precaution -- and technology far more advanced than India or Pakistan can even dream of -- false information provided by radar and other detection systems was a nightmare for the US and Russian militaries. There were several serious false alarms causing much alarm, and this is true to an extent even today. For example, it has recently become known that on 25 Jan 1995 the Russians mistook a Norwegian scientific rocket for Trident sea-launched warheads. This mistake lasted for a full eight minutes - only two minutes away from the launch of Russian nuclear missiles, which are 'launch-on-warning'. Today there exist fears that although a nuclear launch is meant to be authorised by the Russian President, the Defence Minister and the Chief of General Staff of the Armed Forces, and subsequently by three officers at the missile sites, nevertheless this chain of command can be bypassed. Russian officers

have been known to re-wire their systems to circumvent this and some may have the ability to launch autonomously. It has also been reported that sometimes only one officer remains on duty with the two keys and the button at his disposal.

There are lessons here for all who care to learn from the experience of other nations. First, even the best technology is not good enough when the issue is whether or not to use nuclear weapons. Second, human intervention -- either through mal-intent, ideological fervour, inexperience, or plain stupidity -- can render the best plans and technology impotent. The Pakistan-India nuclear confrontation brings a special urgency to both sets of issues.

It is common to assert that since the US and Russia, each with tens of thousands of weapons, were able to survive the Cold War therefore there is no reason for Pakistan and India, which have far fewer weapons, to feel alarmed. This is wrong reasoning. What may have been considered good enough for preventing accidental US-Soviet war is simply not good enough for us. Having a common border, and with subcontinental missile trajectories of only 4-8 minutes, any type of early warning system is useless. Even if the best satellites, cameras, and computers in the world were miraculously made available to Pakistan and India, this would achieve nothing. In this ridiculously short time it is totally impossible to make a rational decision as to whether the alarm is genuine, and whether the incoming missiles are to be presumed as nuclear armed.

Because no early warning system against nuclear-armed aircraft or missiles is possible, and because there is no way for Pakistan or India to protect their respective command and control centres, there is one and only one possible course of action. This is to disperse and deploy nuclear-armed aircraft and (when available) missiles over as wide a geographical area as possible under the command of separate military units. Further each unit must necessarily be provided the necessary authorization codes for arming and launching the nuclear weapons in its possession.

Without providing autonomy to nuclear-armed military units, dispersal makes no sense -- a single bomb on the Rawalpindi GHQ would knock out Pakistan's ability to mount a retaliatory strike. Even if the GHQ, or some other command and control centre, were somehow fortified to survive a nuclear blast in the vicinity, the electromagnetic pulse which accompanies a nuclear blast would destroy all normal telecommunications. Hence autonomy of military units is an inescapable requirement for maintaining a credible deterrent. But, at the same time, this has a frightening cost because each unit, and not the PM and COAS, would have the final say in launching a nuclear strike against India. Could some ideologically charged Hindu-hating unit commander take destiny into his own hands? Could deliberately falsified or "honestly wrong" information reach a unit and result in its launching the weapons in its possession? No one really knows, but the chances are certainly not zero.

One could make a virtually identical argument about India. While it is true that India is much larger, and Pakistan has fewer nuclear weapons, the difficulty in setting up

an Indian command and control system that will not fail is almost equally severe. It would be stupid to concentrate all nuclear decision-making in Delhi, and hence dispersal of nuclear forces is equally important for India. But the problems of dispersal are equally severe as well, and the possibility of accidentally initiating nuclear war from that end exists to a similar degree. We have no right to presume that the Indian command and control system is any more reliable than ours is.

Are these fictional, exaggerated, fears? I wish it were so. But the truth is that accidents, sabotage, and tragedy have frequently haunted our two countries. India has seen the terrible Bhopal gas tragedy, numerous nuclear reactor mishaps, dam collapses, and industrial accidents. Pakistan has seen many tragedies too.

It was but ten years ago that an unending stream of shells and rockets rained down from the skies of Rawalpindi and Islamabad, killing about a thousand people and wounding and maiming many times that number. The immediate reaction of most people around me, with whom I watched this awesome display from 10 miles away, was that it was an Indian attack. Others said that Kahuta had exploded. The government behaved like a chicken with its head cut off and went around in circles. It was much later in the day that Radio Pakistan admitted that an ammunition dump, located in the heart of the city, had blown up. To this day, no official report of the Ojhri Camp disaster has been made public and the cause remains secret.

The explosion of a nuclear device would be immeasurably more serious than the blowing up of an ordinary ammunition dump. Indeed, thirty years after Hiroshima US nuclear weapon designers became conscious of the fact that in the event of fire or ordinary explosion, there is a fair chance that a nuclear weapon could undergo nuclear detonation even if it had not been readied for use. This could happen, for example, if a bomber or missile were to crash upon one's own territory. Subsequently there was a massive effort to make nuclear weapons safer, as well construct the exceedingly elaborate electronic and mechanical safety catches called Permissive Action Links (PALs).

One does not know whether Indian and Pakistani nuclear weapon makers have put in the enormous effort need to "safe" their weapons and to what extent they have succeeded or failed. But, generally speaking, our national disposition is that of risk takers. The notion of fate plays an important role in our poetry, language, and daily behaviour. Therefore, for both India and Pakistan, safety has never been an over-riding concern in driving cars and buses, disposition of toxic wastes, construction of buildings, and so forth. Why should we assume that it would be any different when it comes to building bombs?

A nuclear Ojhri is not, therefore, impossible. When Indian or Pakistani nuclear weapon are assembled and deployed to operational units, the danger will rise in direct proportion to their numbers. If a nuclear explosion occurs for whatever reason, the natural assumption would be that the device belonged to the other side. Even if the device actually belonged to one's own side, a government, fearful of public reaction, may

commit the ultimate folly of attempting a cover-up. The consequences of this could be various, including the probable initiation of cross-border nuclear hostilities.

No one knows how probable accidental Pakistan-India nuclear war is, no one knows what surprises Kashmir holds, and no mathematical equation can provide the answer we want. But let us recall General Zia-ul-Haq's famous remark, made soon after the crisis precipitated by India's Brasstacks exercises along the Pakistani border in 1986, "*neither India nor Pakistan wanted to go to war but we could have easily gone to war.*" Therefore, to create a false sense of security in the post-nuclear age is an act of supreme folly.

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