The Immorality of Nuclear Weapons [1]

Amulya K.N. Reddy[2]

Nuclear weapons are not just another class of weapons in the long history of development of weapons. Nuclear weapons are unique – their impacts are primarily on innocent civilian non-combatants, particularly women and children; their radiation effects persist for generations after their detonation; they are intrinsically indiscriminate; they are largely uncontrollable; and above all, they are instruments of mass murder on a scale unparalleled in human history. This uniqueness of nuclear weapons is now clearly affirmed in an Advisory Opinion of the International Court of Justice rendered in the month of July 1996.

Nuclear weapons have security, political and economic implications. In the ultimate analysis, however, the issue of nuclear weapons is a **moral** question. It is a question of right and wrong, good and evil, ethics. It is this ethical aspect of nuclear weapons[3], especially as it applies to the designing and manufacture of nuclear weapons, that is the focus of my presentation.

The only actual uses of nuclear weapons against civilian populations during a war were by the US in Hiroshima and Nagasaki in 1945. The mentality that went behind ordering and executing the bombardment of Hiroshima and Nagasaki cannot really be understood without the context of the large-scale violence of World War II. Apart from the sheer magnitude of the numbers of casualties caused during the entire war, there are two other important thresholds that were crossed during the war. The first was the fire bombing carried out by the Allies of cities like Dresden, Hamburg and Tokyo. These resulted in an unprecedented scale of destruction and were the first really major attacks against civilian populations during the war. The second, and perhaps equally important, was the Holocaust.

After Pokhran II, there was a distressingly and disappointingly small minority of Indian scientists who spoke up against the nuclear tests. Though I was one of them, my attitude intensified after a visit to Poland in September 1999. There, a World Energy Assessment meeting in Cracow enabled me to visit the infamous Nazi concentration camps Auschwitz and Birkenau now preserved as museums.

During World War II, about 1.5 million innocent victims from all over Nazi-occupied Europe, overwhelmingly Jews, either went directly to the gas chambers and the crematoria at Auschwitz and Birkenau, or indirectly via the camps where they were held prisoners until they were too weak to labour.

Primo Levi[4] in his powerful account *Survival in Auschwitz* of his personal experience has described life in the camps. The tour of the camps left me with a completely

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1 Text of the Keynote Address to the ***National Convention on Disarmament and Peace*** , 11 November, 2000, at New Delhi.

2 International Energy Initiative, 25/5 Borebank Road, Benson Town, Bangalore 560 046 (India) [Tel/Fax: 353 8426] [email: ieiblr@vs nl.com]

3 J. Bronowski, *Science and Human Values* [Harper Collins revised 1990 ISBN 0060972815] was a major contribution to the ethical aspects of nuclear weapons.

4 Primo Levi, *Survival in Auschwitz*, A Touchstone Book, Simon &Schuster, New York (1996)

unexpected feeling. The scale of human extermination was so enormous that I had remind myself, particularly because the camps have been unpopulated since 1944, that there used to be human beings there. Human belongings -- toothbrushes, shoes and suitcases -- were piled from floor to ceiling in huge rooms, a separate room for each item, but the aggregate was more reminiscent of factory inputs. Even the room full of human hair looked like raw material for an industry, in the Auschwitz case, the manufacture of tailor's lining cloth.

If Auschwitz was unbelievable, its neighbour Birkenau located 3 kms away, beggared the imagination. Birkenau was spread over 175 hectares with 300 buildings each capable of housing 1000 inmates. Birkenau was a scale-up from the pilot plant demo at Auschwitz with a peak of 20,000 prisoners to full-scale commercialisation of mass-murder technology at Birkenau with 100,000 prisoners in August 1944.

The powerful impression that persisted was of detailed engineering resulting in "... the immense technological complex created ... for the purpose of killing human beings." The meticulous organisation and rigorous management were characteristic of mega-industries, "gigantic and horrific factories of death". The main gate of Auschwitz displayed the inscription “Arbeit macht frei” (“Work brings freedom”). Perhaps a more apt announcement would have been “Technology completely decoupled from values”.

As the scale of killing increases, the technology often (but not always) becomes more and more sophisticated -- from knives to guns to machine guns to bombs to gas chambers and crematoria to atomic bombs. Also, with increasing scale, not only does the distance from victims become greater, but also the complexion becomes more and more technical. Burial is sufficient for one body, but for hundreds or thousands of bodies, one thinks in terms of "throughput", “air/fuel ratios” and "burning capacity".

In Auschwitz, it is obvious that nothing happened spontaneously. Everything was designed and planned. The Nobel Prize winner, Fritz Haber, developed the poison Cyclon B. One of Germany's top chemical industries, IG Farben, produced the poison for exterminating people in the gas chambers. Careful experiments were done to determine the time that it would take for a person to be poisoned. An engineering firm designed the crematoria furnaces to process 350 bodies per day in Auschwitz I. So, there must have been engineers preoccupied with the technical problems. Perhaps, like Oppenheimer talking about nuclear weapons, some even thought that the problem was "technically sweet". Or, like the Department of Atomic Energy scientist at the Bangalore Kaiga debate in 1989 who said: "Hiroshima provided us with a fortunate opportunity to study radiation effects!"

Once the problem was defined as eliminating hundreds and thousands of people per day, the Auschwitz solution was inevitable. But, who defined the problem and promulgated the order? By and large, it was political decision-makers that defined the problem. There was a conference at Wannsee, a suburb of Berlin, on January 20, 1942, at which the Nazi leadership decided in less than two hours (before lunch!) on the “final solution” to exterminate the Jews. Ethnic superiority, racial/religious hatreds and fundamentalist views are well-known bases for decisions with far reaching destructive impacts on human beings.

Why was this definition of the problem so widely accepted? There could be several reasons. The population had been innoculated against moral judgements so that there was a pervasive moral indifference. The informed were silenced and the articulate dissidents became the first inputs to the camps. The media and journals were not allowed to reveal the truth. As a result, many citizens genuinely claimed ignorance as an excuse. [The New York Times Magazine of Sunday February 13, 2000, has an article entitled: "The Good Germans" by Peter Schneider which shows that there were many Germans who protected Jews in the midst of Nazi terror, thus challenging "the theory of mass guilt and deepening the culpability of the collaborators".]

The most serious problem is the plea of duty and the obligation to carry out orders. Recall the movie "Judgement at Nuremberg" with Spencer Tracy as the judge trying the Nazi judges for furthering the extermination of Jews. These judges defended themselves by submitting that they were just carrying out orders. The judgement at Nurnberg was that a human being has to take full responsibility for the consequences of his/her actions and that the excuse of obeying orders is inadmissible.

Apart from the above factors that operate in the case of officials and technical personnel, there is the additional device of taking a top-down macro view (e.g., national security, geopolitical compulsions, etc.). In such a macro view, numbers and statistics displace human beings. New proxy words dominate the discussions -- "burning capacity" replaces “the number of corpses burnt”, "kilotonnes yield" replaces "kilodeaths", etc.

Functionaries, however, cannot avoid contact with the prisoners and victims to keep the system going. A recent book[5]: *Ordinary Men: Reserve Battalion 101 and the Final Solution in Poland* by Christopher Browning deals with the whole question of how ordinary men become genocidal killers. What is overwhelming and astounding in Auschwitz and Birkenau is the unbelievable cold-bloodedness of the operation. It appears that the guards treated inmates inhumanly because they believed that the victims were sub-human and “things” rather than people. Once this belief is propagated and accepted, anything goes -- as in the growing number of examples of ethnic cleansing and genocide (native Americans, Hindus and Muslims in Partition, Rwanda, Bosnia, Kosovo, and East Timor).

Walking through Auschwitz, I began to wonder how the development of the atomic bombs at Los Alamos, the test at Alamogordo and the bombing of Hiroshima and Nagasaki differed from the Nazi concentration camps. Of course the Allies in World War II were not driven by the racism of the Nazis, and they were not pursuing a final solution of extermination of any particular religious group. But with regard to the scale of killing, the recruitment of capable minds, the harnessing of science and technology (some perhaps hoping that the weapons would never be used and others even opposing the use of the weapons after they were developed), the extent of organisation, the resort to effective management, and the choice of targets to maximise annihilation of Japanese civilians, the Manhattan project was like the concentration camps, in fact, even more horrendous in its impact.

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[5] Christopher R. Browning, Ordinary Men: Reserve Battalion 101 and the Final Solution in Poland, Harper Perennial, New York (1998)

I started agonising over what all this meant for India. Since May 1998, the country has witnessed the scientist-politician nexus underlying the nuclear tests at Pokhran, the use of national security arguments to advance party agendas and the self-serving jingoism of the scientists. Of even greater importance has been the silence of its journals with a few notable exceptions, the obfuscation of ugly reality and the virtual absence of intellectual dissent.

After an initial silence on the subject (as if it never happened), the journal "Current Science" publicised the official/government version of the "kilotonnes yield" of the test bombs but rejected/suppressed M.V. Ramana's estimates of the hundreds of thousands of innocent non-combatants who would be killed if even a primitive atomic bomb were exploded on Mumbai/Karachi[6].

Other questions bothered me. Are the institutions on the Indian sub-continent necessarily more robust and moral than those in the Germany of the 1930s and 1940s? Are Indian politicians and parties less prone to exploit religious animosities? Are Indian scientists and engineers less eager to get political support for their next ego trip or power play (e.g., neutron bombs because they kill but don't destroy). Once the nuclear-tipped missiles are deployed, are there guarantees against “some crazy guy doing some crazy thing”? Are we sure that Pokhran will not lead as inevitably to Lahore and/or Chagai to Mumbai as Alamogordo led to Hiroshima?

Scientist escape responsibility for the horrors that have sprung or can spring from science by the clever excuse of the amorality of science. For example, the well-known statement of the otherwise saintly, sincere and dedicated Kalam that “he is only an engineer" and that "his missile can also be used for delivering flowers".

The amorality emerges from two conventional prescriptions for the relationship between the scientist (the subject) and the object of scientific study. Firstly, the scientist is urged to separate and distance himself/herself from the object of study even when the object is living. Secondly, it is recommended that the study must be devoid of emotion and values. It must be a cerebral objective activity devoid of feelings. The amorality of science stems from the isolation of the subject from the object and the removal or absence of emotions and feelings values. And when the object of the study includes human beings, then the perception of people as “things”, lead inevitably to science becoming the instrument of violence, oppression and evil.

I submit that there is a way out of this moral crisis. The relationship between the scientist (the subject) and the object of scientific study must be such that initial separation (and distance) ends in subsequent unification (and embrace). The suppression of emotion **during** analysis must give way to emotion **after** analysis. The functioning of scientists as individuals, groups and institutions must be constrained and limited by moral strictures and taboos. Science, therefore, must not be neutral. It must be encoded with life affirming values[7]. The link between science and morality must be re-established.

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[6] This was subsequently published as M.V. Ramana, *Bombing Bombay*, (Cambridge, USA: International Physicians for the Prevention of Nuclear War, 1999).

[7] Thanks are due to Shiv Vishwanathan for this insight.

A crucial safeguard is to insist that, quite apart from the top-down macro view of security, yields, kill-ratios, etc., there must be a bottom-up micro view based on human beings. We must see beyond the numbers and the statistics, we must see children and parents and grandparents, lovers and married couples, siblings, friends and comrades.

We must never forget the Gandhi talisman: "Recall the face of the poorest and most helpless person ... and ask yourself if the step you contemplate is going to be of any use to him. Will he be able to gain anything from it? Will it restore to him control over his life and destiny?"