

# Charred dolls

## The real and supposed amorality of nuclear weapons

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*And bring ye to the place where thou and Death  
Shall dwell at ease, and up and down unseen  
Wing silently the buxom air; embalmed  
With odours; there ye shall be fed and filled  
Immeasurably, all things shall be your prey.*

*John Milton, Paradise Lost, II, 840-844*

**T**he rescue squads had flocked to the levelled city a few hours after the attack. Their awareness of the tragedy numbed by the harrowing sight of the wanton destruction all around them, the men could not make out for a while of the strange, seemingly too high number of charred dolls dotting the streets in front of them. Why had been so many children running for their lives, clinching to their favourite toys only to eventually jettison them in the boiling mayhem they had been so desperately trying to escape? The eyes of the rescuers fell on one doll, then on a few, and then again on dozens of them, blackened cinders which appeared incongruously too many to make any sense, even amid that senseless devastation. Only then, all at once, did the dizzying depth of the horror finally set in. The children had not abandoned their toys. Those were not dolls. Those cinders *were* the children.

When burned, human bodies shrink. When burned completely, the bodies of adults shrink down to about the size of a medium ape; the bodies of children get shrunk down in proportion. This was not all that was awaiting the rescue squads, though: thousands more corpses, of children as well as of

adults, were discovered in the city's bomb shelters, cyanotic from suffocation. The violent firestorm, a man-mad phenomenon with no equal in Nature, had utterly deprived of oxygen many areas of the city, and even the few lucky enough to escape the fire could not breath. Others had burned to death out in the streets, trapped by the melting asphalt up to their knees until the flames had reached them. During the following days, thousands of bodies, many with their limbs fused to the remains of the torso by the intense heat, were carried away in carts looking grotesquely too small below the barely balancing piles of bodies.

The only nightmare that the few survivors and the rescue teams did not have to contend with in the days and months which followed the attack was heavy radiation poisoning, the sinister aftermath of a nuclear explosion, where deadly body irradiation results from instant gamma rays from the blast, followed by intense isotope decays in the lingering fall-out. In fact, the nightmare just described was not the chronicle of the day after the atomic bombings of Hiroshima and Nagasaki. This was not the Hell which befell the two Japanese cities in August 1945; this was San Valentine's Day of the last year of the War in Dresden, East Germany. The previous day, the 13th of February, 1945, the Lancasters of the

Royal Air Force Bomber Command had dropped thousands of tons of high explosive and incendiary bombs on the capital city of Saxony, and the American B-17's had followed with their own delivery of ordnance completing the sheer levelling of the city. The idea of deliberately igniting a firestorm of grandiose proportions, which self-feeds its own fury sucking in air, tornado-like, from the surrounding area, had been tested with success more than one year before on Hamburg, where between 40,000 and 50,000 people had been killed and the city had been practically utterly destroyed. The Dresden tally rallied in the range of 25,000 by most counts, well below the death toll in Hamburg, but for many the proximity of the end for Nazi Germany called into question the moral legitimacy of this attack in particular, making the city on the Elbe a lasting shrine to the folly of war.

Simon Bolivar once famously remarked that war might be the worst thing to befall Mankind, but that something was worse still: tyranny. Actually, there is something else worse than war: a war nearing its end. The strategic firebombing of German cities in the waning months of World War II in Europe has been seen by different historians alternatively as an heinous campaign of dubious military efficacy, a too easily forgotten war crime committed by the Allies - the Brits in the lead - or as a very minor retribution for the Nazi's Hell on Earth of the extermination camps at Auschwitz-Birkenau and Sobibor. From a less moral but more strategic perspective, the firebombing of Dresden was explained as a terrible but militarily justifiable attempt at "shocking the Germans", who had not got the military situation clear enough in their minds, but instead had launched a last brutal counter-offensive across the snow-blanketed Belgian Ardennes three months before. But the world would see more of this. Japan would burn soon as well.

The U.S. Army Air Force<sup>ii</sup> dropped some 150 kT, the equivalent of *ten* Hiroshima's, of conventional explosive and firebombs over Japan in the last five months of the war. As well-known to historians, one of the key criteria in selecting the naval yards at Hiroshima for the first atomic bombing was the fact that the city, some 680 km south-west from Tokyo, had been left relatively unscathed by conventional raids up to that moment: this provided a good opportunity to assess the effects on the new weapon. What is less often realised by the public is the meaning of this: that some 60 Japanese cities had been already reduced to ashes by firestorm bombing attacks, which made extensive use of napalm. The famous raid on Tokyo in March 1945 went on for

three days, with wave after wave of B-29's attacking the Japanese capital from their base in Tinian<sup>iii</sup>. Some 100,000 civilians died in that attack alone, following the same script in Hamburg and Dresden: victims were either burned to death and reduced to cinders, or else died from suffocation for sheer lack of air.

Then Death put on atomic clothing. About 140,000 people died in Hiroshima by the end of 1945 from the blast, flash burns and radiation, and the final toll reached 200,000 altogether over the next five years. The corresponding figures for Nagasaki were lower: about 70,000 people dead by the end of 1945 and 140,000 altogether over the next five years. Despite its higher yield<sup>iv</sup>, the plutonium-implosion design device dropped on Nagasaki on August 9, 1945, killed less people than the uranium "shotgun" design dropped on Hiroshima three days before. Their unique destructiveness notwithstanding, even nuclear weapons do not flatten mountains at will, and the blast from moderate yield bombs can be attenuated effectively by hills. This was proved graphically in the second atomic bombing: heavy summer morning fog over the Kyushu city prevented accurate aiming by the bombing officer aboard the B-29 aircraft, named Boxcar, which attacked Nagasaki. Actually, the plane came close to aborting its mission and dropped its load only on the second bombing run, but precision suffered. The bomb went off aside a high ridge running along the city, which partially shielded it from the otherwise more powerful blast.

Irrespective of this ranking, there is no denial that the devastation in both cities was terrible. But can one truly claim that the atomic bombings were uniquely unprecedented in savagery, and utterly devastating, beyond anything which had befallen Japan over the course of the last months of the War? One easily witnesses the widely-held, and erroneous, notion that the atomic bombing of Japan took place in a sort of a vacuum, and that Little Boy and Fat Boy were the last bombs actually dropped on Japan. It is perhaps not well known<sup>v</sup> that the U.S. Army Air Force continued to carry out a series of raids of conventional firebombing over Japan between August 7 and August 10, which involved hundreds of B-29's. The raids were quite "successful": on August 8, two days after the atomic bombing of Hiroshima and one day before that of Nagasaki, the fraction of Fukuyama that was burned down was a staggering 73.3 %. Despite the horrifying destructiveness that *two single* bombs could havoc in a fraction of of second, it is debatable whether the two first atomic bombs were so ominous in the

overall level of destruction meted on their targets. The godfather of atomic historiography, Richard Rhodes, correctly writes - citing a post-war Japanese account of the Hiroshima bombing - that "*The whole of society was laid waste to its foundations. Such a weapon has the power to make everything into nothing.*"<sup>vi</sup> People are killed and buildings are raised to the ground in a nuclear attack, but with them hospitals disappear and medical personnel is murdered along with fire-fighters. The overwhelming of the survivors of a nuclear attack comes no second to the fate of the ones who die instantly in accounting for the horror of nuclear war. Still, the deliberate firebombing of German and Japanese cities in the last months of the war by Royal Air Force and U.S. Army Air Force heavy bombers had already introduced a terrifying paradigm shift in the morality of waging war. Some historians claim convincingly that the incineration of people and the melting of metal structures after conventional firebombing arguably left cities in Germany and Japan in a similar state of utter destruction, albeit those communities were at least spared the harrowing effects of heavy radiation poisoning. Differences in post-War economic development obviously played a most significant role, but it is not at all preposterous to recall that Dresden carried its scares much longer than Hiroshima did.

The bell which tolls every year on August 6 at 8:11 a.m. at the Hiroshima's day of remembrance has become a kind of ritual for the sacrificial lambs who died on the altar of future world peace. Alas, this is history for little kids in primary schools: the 60 Japanese cities burned to ashes and their surrounding landscape, reduced to a sort of pocketed lunar surface, had joined the most remote specks of land in the gleaming, blue waters of the Pacific in an ever-increasing display of brutality, with harrowing reports of torture and mutilation of prisoners (on both sides), the maddening reluctance of Japanese troops to surrender and the extensive use of flame-throwers by allied troops. The fighting at Tinian was awfully harsh; at Iwo Jima it was hellish; at Saipan hundreds of civilians, the women clinching their infant children in their hands, jumped to their death from the high cliffs of that island, after having been terrorised by the Imperial Army's propaganda about the mass rapes and tortures surely awaiting them at the hands of the American devils landing on the shore. Tens of them, not quite fully convinced of the prospect, were unceremoniously thrown into the void by their own troops shortly before the arrival of the Marines. For quite some time before its final capitulation, and in particular at the time the first

atomic bombings of Japan were decided, World War II in the Pacific was already no picnic.

Our widely-held opinion of the morality of atomic weapons, in particular that of their use by the United States in wrath against Japan, and their *ipso facto* association with absolute Armageddon is much more a legacy of multi-megaton weapons, counting in the thousands in the arsenals of the United States and Soviet Union as of the early 1960's, than a singular, intrinsic horror of *any* nuclear explosive. The basic novelty of the first atomic bombs was that a single bomb, dropped by one plane flying a solo mission<sup>vii</sup> could level a city, doing the costly job of hundreds of planes, flying raids which could last two to three days. Once nuclear weapons were manufactured and available, the economic rationale for their use was clearly immense<sup>viii</sup>. There is, to be fair, nothing truly original about this. The transition to gun powder for individual weapons, for instance, was not motivated by any initial superiority of rifles and shotguns over bows, arrows and blades, which remained equally effective, and normally much more reliable in their functioning, for centuries. The winning argument for guns was economy: it takes a number of years of continuous training and practice to turn a citizen into a proficient archer or sword master, and he basically needs to commit himself almost full time to maintain his proficiency over most of his life. Any farming hand or factory worker, on the other hand, could learn in a few days of training how to handle a rifle well enough to be more dangerous for the enemy than for himself. At the beginning, nuclear weapons only amplified this trend enormously.

One should not, however, sacrifice the obvious on the altar of fighting the mere politically convenient: on more than one count, the kind of destruction that nuclear weapons bring is indeed unprecedented. One aspect which is probably singular to nuclear weapons is the "density" of the destruction resulting from their use in warfare. Conventional bombing, much as shelling by artillery, can be more or less extensive, but pockets of survival are interspersed with areas of complete destruction. The death toll of conventional bombings can mount into the tens and hundreds of thousands, just as it was the case in Hamburg, Dresden or Tokyo, not far from the total body count of a nuclear attack the size of Hiroshima and Nagasaki, but the character of the destruction is different. Lucky individuals can survive locally, everywhere, a conventional attack. The individual circle of destruction of conventional bombs is much more limited, of course, and the protracted time duration of a conventional bombing raid makes it possible in principle for anyone to find oneself out

of range of every single explosion. With an atomic weapon, instead, everybody within a given fairly wide range dies: the circle of complete destruction, a truly man-made shrine to Death caused by the initial fireball of the explosion, can extend from the 700 to 800 metres for a 15 to 20 kiloton device, like the ones used against Hiroshima and Nagasaki, to the 3 to 4 miles for a 10 to 15 megaton device, like the ones developed and tested by the United States in the mid- to late 1950's. Chance plays no role for any living being caught within that range and there are no survivors. Probabilities for survival differ from zero only over respectively greater distances from ground zero, with proportionally decreasing rates of instant mortality from blast effects and flash burns. Levels of radiation exposure follow a similar trend: 100% probability for fatalities within a given range, a high probability of death within weeks farther away, and progressively lower probabilities for serious harm from radiation farther away still. But within a given range of a nuclear explosion, Death reigns at will. The only two atomic bombings in the history of warfare bear grim witness to this: the death rate in Hiroshima up to the end of 1945 reached 54% of the population, an extraordinary density of killing; by comparison, the death rate for the March firebombing of Tokyo, totalling 100,000 deaths among 1 million casualties, was a much lower 10%.

The "density" of destruction from a nuclear blast should be also put in relation to its overall scale. What is patent is the potential for the unprecedented amplitude of destruction that a major nuclear exchange would result in. But again, this is a concept which pertains to multi-megaton arsenals much more than to *any single* nuclear weapon. There are some psychological distortions which need to be corrected, lest nuclear weapons be demonised too much, at the expense of letting our consciences and policy objectives getting away too easily from a number of non-nuclear dangers and savagery, in sore need instead of being faced in all their ghastly detail. One well-established cliché is that atomic weapons are so dangerous and immoral because a nuclear exchange can havoc such damage in a matter of minutes, whereas a world without nuclear weapons would enjoy more time to reflect upon critical decisions and stop at the brink of utter disaster. The argument scores a point in that, indeed, a 1980's - style exchange of ICBMs between the Russian Federation and the United States, despite the reduction in their respective atomic arsenals, would still basically destroy civilisation as we know it in much of the Northern hemisphere in less than half an

hour (the time of flight of a MX missile from South Dakota to Murmansk). Alas, history does not provide much evidence that non-nuclearity *per se* is a guarantee for a safer and friendlier world. The classical example which springs to mind is the Holocaust. The systematic murder of some six millions Jews across Europe was planned and carried out with cool heads over a period of years. Actually the horror intensified, as if it were ever possible, in the last years of extermination: Nazi policies in the 1930's were visibly ones of brutal intimidation and sometimes murderous violence, but not yet one of systematically killing millions, and the pace of murdering innocents picked up in the later years of the war, going from the mass shootings carried out by Einsatz Kommandos in Eastern Europe to the gas chambers in the death camps in Poland. Time for reflection did not bring any mercy, stopping the hands of Hitler's willing executioners<sup>ix</sup>, as they moved from pulling the trigger of a rifle at Baba Yaga to pouring crystals of Zyklon-B down the chimney of a gas chamber at Auschwitz-Birkenau. It took a world war to bring that bestiality to a halt.

The sudden character and extent of destruction that the use of nuclear weapons entails are real, to be sure, but there is a need to refrain from some naïve arguments, which only defocus attention away from the true amorality of war: war itself. All things nuclear become even murkier at the level of the individual. Can we distinguish easily the cinder who was a child in Dresda from the charred remains of the one in Nagasaki? Were the shrieks of a Japanese boy dying of his flash burns at Hiroshima more harrowing to the ear than the one of a Vietnamese girl stricken by napalm in some forgotten village along the Mekong in response to the Tet offensive? Was it more offensive to human dignity having one's internal organs utterly liquified by the instantaneous rise in temperature caused by the Hiroshima atomic explosion than being raped by a Kapo while waiting in line with her family for one's turn to enter the gas chamber at Auschwitz-Birkenau? Did God set up shop further away from Nagasaki than he did from the death factories of the Holocaust, or from Cambodia's killing fields in the 1970's, or from the piles of bodies dotting the green countryside of Rwanda during the Hutu-Tutsi genocidal conflict in the 1990's?

As interesting case in point about the *intrinsic* amorality of nuclear explosives is that of their biological damage, something that is not normally considered when contemplating the harrowing effects of a possible large exchange between present-day nuclear powers. The atomic bombings

of Hiroshima and Nagasaki, again, provide some evidence. For weeks after the blast, people kept dying in Hiroshima in the hundreds and the thousands, utterly unexplainably to the clueless medical doctors, since those victims had been left relatively unscathed by flash and blast effects. Autopsies of the dead revealed that their internal organs had turned into grisly huge bacteria cultures, the immune system of the victims having been essentially wiped out by the heavy doses of radiation. And recalling that the leading complication of burns is the risk of infections, here one has a good example of how the use of a nuclear weapon carries with it a clear prospect for a casualty nightmare for the health structures of a stricken community in treating victims who did not die from the blast. But, again, we are facing here an horror of scale, not one of singular shame and pain at the level of the individual. In a macabre parallelism, during the months which preceded the bombing of the two Japanese cities, hundreds of Chinese and - it has been reported - also some British and American prisoners of war were deliberately infected with all kind of diseases in the infamous Unit 731 in Manchuria, operated by the Japanese Imperial Army as a testing ground for biological warfare. Just as the victims of heavy radiation at Hiroshima, their internal organs were practically liquefied by the bacteria which had invaded their bodies. The difference was that the heroic doctors at Hiroshima performed autopsies; the butchers at Unit 731 operated on live human guinea pigs. Without anaesthesia.

This author became disturbingly aware of Unit 731 as early as the early fall of 1981, while reading about it in one of the libraries of the University of California at San Diego. Some people in the United States evidently learned about it only some twenty years later, through an article in the National Geographic<sup>x</sup> about weapons of mass destruction, which mentioned the treatment of inmates at Unit 731 along with some discussion about the atomic bombing of Japan. Perhaps not surprisingly, that article elicited responses from readers along the following lines<sup>xi</sup>: *"I was incensed that the article would speak in the same breadth of the Japanese torture of prisoners in China and the Allied bombing of Hiroshima... A government that dissects live people after subjecting them to biological and chemical experimentation must be stopped, especially when that nation is engaged in conquest. Unfortunately the citizens of such a government often pay dearly for the evil choices of their leaders"*. The sheer amorality of human cruelty is probably well rendered by the closing sentence in

the point of view so graphically expressed by the National Geographic reader. One latter horror does not provide a morally convincing answer to a former one. And, perhaps more appropriately, hardly ever retribution is meted on the directly responsible for bringing Burning Hell on Earth: the Japanese troops operating Unit 731 did not get obliterated by the dropping of atomic bombs, and some of the perpetrators of those atrocities were later granted immunity from war crimes prosecution against the delivery of key information about biological warfare to the U.S. Army<sup>xii</sup>.

Further, one could recall that only about one sixth of the population in Hiroshima was composed of Navy sailors and people directly connected with the shipyards producing and repairing ships for the war effort, therefore suitable for targeting under normal legal rulings by military courts. Also, in a sinister quirk of history, the modified torpedoes which had made feasible the attack on Pearl Harbour had been manufactured by Mitsubishi Heavy Industries in its factories in Nagasaki. But the large majority of the population in the two cities was, to all practical moral purposes, composed of non-combatant civilians.

The actual role of the two atomic bombings on the ending of World War II were to an extent exaggerated by the collective vision of nuclear weapons which came to being - quite correctly, this time - only later, in the 1960's, when the number of available bombs in the arsenals of the Soviet Union and United States grew into the thousands, and the yield of individual weapons grew also by a factor of one thousand, thanks to the development of two-stage thermonuclears. Then, and only then, nuclear weapons became really unprecedented in their capacity of bringing an end to human civilisation, following a major exchange on a planetary scale. One could dare to surmise that the prospect of a nuclear holocaust became so scary to both our conscious and subconscious thinking, precisely because nuclear weapons are in a very specific sense so democratic! On the scale of the individual, it makes no difference whether one is king or president, soldier or poet; within a given range from a nuclear ground zero, everybody dies. But the true amorality introduced by the invention of nuclear weapons is only one of scale. For millennia, battlefields in the aftermath of the fighting and the dungeons of countless fortresses have resonated with the shrieks of the dying and of the raped, the abused, the tortured. Cries travel less than nuclear fallout, though, and our civilisation could patch up things and go on, through its never-ending litany of

horrors, hoping that our tomorrow, or at least our children's tomorrow, will see the sun rising on a better world. Nuclear weapons carried with them the nightmare of destruction on an unprecedented scale, should they be used in a sufficient large number, and especially should multi-megaton, high-yield warheads be called back from retirement. But, as far

as harrowing pain and death meted on individual human beings, nuclear weapons have introduced no novelty in blasting up the gates of Hell wide open. In the gallery of horrors which dot the whole of our recorded history as a self-aware species, nuclear weapons ultimately found themselves in pretty good company.

### **About the author**

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- <sup>i</sup> The choice of the adjective is dictated by the memory of the 112 American POWs, who were gunned down by German troops near Malmedy, Belgium, in the first days of their Juggernaut. The shooting lingers as a stain on the honour of the Third Reich's troops, who instead fought quite bravely during the entire campaign which followed the Allied landings in Normandy. Otherwise, counter-offensives are never particularly quaint happenings.
- <sup>ii</sup> We recall that the Air Force became an independent branch of the U.S. military only in 1947. Up to then, it was integrated into the U.S. Army.
- <sup>iii</sup> Tinian had Japanese air strips, which were modified and built upon in a record time by the U.S. military to accommodate B-29 bombers, once the island was taken by the Marines. From Tinian, the Japanese homeland came within the operating range of the new bomber, now capable of striking the main Japanese islands. On the route north to attack Japan, lied a rocky, barren island, out of which Japanese Zero fighters operated. The island needed to be secured before the B-29's could fly safely towards their targets, but the fighting for a whole month even after the American flag could fly over Mount Suribachi turned out to be probably the most hellish of the entire campaign in the Pacific. Europeans will be forgotten to make some confusion about those islands; Japanese and Americans remember better. The name of that island lying on the route to Japan was Iwo Jima.
- <sup>iv</sup> The "Fat Boy" bomb dropped on Nagasaki reached between 21 and 23 kilotons; the "Little Boy" bomb used on Hiroshima was often quoted to have yielded 12.5 kilotons, but more recent estimates put its yield at 15 kilotons. For comparison, the implosion plutonium design tested near Alamogordo, New Mexico, on July 16, 1945, "Trinity", had a yield of 18.6 kilotons.
- <sup>v</sup> See for instance Michael D. Gordin, "Five days in August: How World War II Became a Nuclear War", Princeton University Press, 2007, page 96.
- <sup>vi</sup> Richard Rhodes, "The Making of the Atomic Bomb", Touchstone books, New York, 1988, page 733.
- <sup>vii</sup> The two bombers which attacked Japan, Enola Gay (Hiroshima) and Boxcar (Nagasaki), were actually accompanied by two and one other B-29's, respectively, for the occasion. These planes recorded and studied the effects of the explosions.
- <sup>viii</sup> The American military leaders were not particularly shocked by the effects of their new weapon, in particular the radiological dimension, which of course became fully known only months after the attacks, when the U.S. Army completed the occupation of Japan. A third atomic bomb was about to be assembled for delivery, and a list of Japanese cities targeted for atomic bombing was compiled. Had Japan not capitulated, both atomic and conventional firebombing would have continued. See for instance Michael Gordin, *op. cit.*
- <sup>ix</sup> The expression is borrowed from the title of Daniel Jonah Goldhagen's best-seller, Vintage books, New York, 1997.
- <sup>x</sup> National Geographic magazine, November 2002, page 12 and 13.
- <sup>xi</sup> National Geographic magazine, March 2003, first page of the readers Forum.
- <sup>xii</sup> Personal recollection of the author's reading; see also [http://en.wikipedia.org/wiki/Unit\\_731#cite\\_ref-Gold109\\_6-0](http://en.wikipedia.org/wiki/Unit_731#cite_ref-Gold109_6-0).