Hiroshima Aug 6, 1945
- may it never be forgotten

WW II: Atomic Bomb Victims Suffered Greatly

By MICHAEL BENNETT

Injury by exposure to an atomic bomb first occured in August of 1945 at Hiroshima and Nagasaki, and its effects are still in evidence.

Never before had human beings experiences large-scale radiation and blast which, together with radioactivity, caused the deaths of 140,000 in Hiroshima and 70,000 in Nagasaki.

These miserable events were the first and only examples of heavy lethal and momentary doses of whole body irradiation. These heavy doses were the main reason for the poor repair, the prevalence of infection, and the extremely high mortality in atomic bomb injury.

The atomic bomb not only brought tragic and horrible injuries to the exposed but also hindered the basis for the reparative and regenerative processes of the living body.

The greatest number of casualties occured immediately after the explosion to the end of the second week. At this early stage, about ninety percent of the fatal cases died. Those who survived for several days after the explosion complained of painful thermal injury.

Flash burn of the skin caused by the heat rays was found in those persons exposed within 3.5 kilometers of the hypocenter in Hiroshima, and in those within 4 kilometers in Nagasaki. Flash burn is a primary thermal injury caused by the direct action of heat rays upon the human body.

Secondary thermal injury (such as scorched burns, contact burns, and flame burns) was brought about from fire caused by atomic bomb thermal rays.

Photos taken of the survivors show horribly charred individuals. Scorched arms were held tensely, as if the slightest movement resulted in excruciating pain. Even those victims whose facial features were unrecognizible displayed a look of fear and agony.

In many people skin became loosened and dropped down in flaps. Demarcation and falling-off of burned necrotic tissue was also evident.

In addition to thermal injury, the high mortality was due in part to injuries caused directly by the blast and secondary injuries caused by destruction of buildings. Hearing loss, bruises, lacerations, fractures, dislocations, and cut wounds were reported. Large flying fragments and shattered glass pierced blood vessels and peripheral nerves. With the fall of individual resistance following radiation injury, the wounds became infected and frequently gangrenous.

Further suffering was caused by radiation illness. Early symptoms included nausea, abnormal thirst, loss of appetite, fever, diarrhea, and general malaise. By the second week, some victims experienced removal of hair by the roots, purpura (the appearance of red spots on the skin), and blood-stained stools, urine and sputum. There was a tendency to sponntaneous bleeding in many patients. Nasal bleeding and uterine hemorrahage were often hard to stop, causing great loss of blood.

The victims were also injured by secondary radiation illness caused by contamination from fallout. Various symptoms increased right after rainfall.

Another consequence of exposure to the atomic bomb was the disturbance of reproductive function. Men were found to have decreased sperm counts and women experienced menstrual disorders. Moreover, there were reports of pregnancy disorders and abnormal deliveries.

Unborn children were affected by the atomic bombings. Microephaly (small size of the head) is one of the ill-fated after effects of exposure in utero to the atomic bomb attack and was frequently accompanied by mental retardation. Furthermore, exposure in utero and during infancy adversely affects growth and development. To this day, surveys and studies are being made on chromosome abnormality and gene effect in the survivors and their children.

In the long term, the exposed were very likely to develop keloids, leukemia, anemia, other blood disorders, cataract, thyfoid cancer, lung cancer, breast cancer, salivary gland cancer, and other cancers. Since it is impossible to forecast when and what kind of disease will appear in the exposed, the continuing health of survivors as they age is of concern to medical authorities.

It can be said that no one who was exposed to the atomic bomb will ever be relieved of its consequences.

SOURCE: The Committee for the Compilation of Materials on Damage Caused by the Atomic Bombs in Hiroshima and Nagasaki.

Scientists say no to Star Wars

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Article written by Derek Rsmussen

For the first time in Canadian history, large numbers of scientists and engineers have publicly refused to participate in a military research programme.

In May, Canadian scientists and engineers opposed to U.S. Strategic Defense Initiative (SDI or Star Wars) compiled three petitions and presented them to the Canadian government. Two of the petitions included a pledge of non-co-operation with Star Wars research.

Forty members of the University of Toronto computer science department signed the first petition, which said Star Wars was too complex and would not work. Other scientists opposed to Star Wars who did not sign the petition pointed out that even if the system could work it would be immoral and should be opposed. The first petition said nothing about scientists joining Star Wars research.

The second petition, involving McMaster University engineers and scientists, was signed by 605 staff and graduate students, included university president, Alvin Lee. "That's one third of the engineers and scientists at McMaster," said chemistry professor Adam Hitchcock, one of the petition's initiators. "That's pretty good considering we only circulated it for three days." The McMaster petition described President Reagan's Star Wars programme as an escalation of the arms race which would violate both the 1972 Anti-Ballistic Missile (ABM) treaty between the U .S. and the U.S.S.R. and Canada's previously stated opposition to an arms race in space. McMaster scientist met during a public discussion of the University's possible participation in Star Wars and decided "we didn't want any part of it," said Hitchcock. The section pledging non-co-operation with the research was added, said Hitchcock, "to express abhorrence of the programme."

Seven hundred and forty-nine scientists and enginners from several Canadian universities signed the third petition, which originated at the University of British Columbia. Among those who signed were faculty from U.B.C., University of Toronto, University of Waterloo, McGill University, Universite de Quebec a Montreal and other universities. This petition said that the U.S. space weapons initiative would be de-stabilizing and that it would start a new arms race. The signatories asked Canada not to join in research for the programme and warned that, if it does, "we will not co-operate."

One media report, however, has alleged that Canada is already involved in Star Wars research. On March 29 the *Globe and Mail* disclosed that Canadian research on high energy lasers, financed by the U.S. Air Force and the Canadian government, may be used in the American Star Wars plan. The research, which would lead to the development of X-ray lasers, is underway at the University of Toronto's Institute of Aerospace Studies. Paul Stares, a space weapons analyst at the Brookings Institute in Washington, told the *Globe*: "Any sort of research in this area that increases our understanding of the dynamics of X-ray lasers or the control of them could have direct military application ... If they are funding this type of research, they must be thinking of using it." The University of Toronto physicist responsible for the research, Raymond Measures, acknowledged that his work "could certainly make the Strategic Defense Initiative (Star Wars) possible."

Some peace activists interviewed last week said that they were disappointed with "all the noise about Star Wars." By focusing on "potential research for a potential research for a potential weapon" in the 1990s, they said, scientists are diverting attention from ongoing research and the deployment of