tissues. Such a threshold value would be quite reasonable, considering our present knowledge that no harmful effects to humans occur at exposures less than 20 milligray. A threshold based on the DARI being equal to 0.2 milligray would thus contribute to the current discussion on developing a system of radiation protection that is based on risk to the individual.[4] The nonmeasurable sievert and the linear no-threshold hypothesis—impossible to test at exposures low enough to call into question the concept of dose as an amorphous average quantity[5]—are the real sources of confusion in the system used presently.

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Hiroshima Bomb's Explosive Yield Less than Reported

Paul Guinnessy reports that the explosive yield of the Hiroshima bomb was 20 kT (PHYSICS TODAY, August 2002, page 23). However, that value is at variance with the most reliable ones in the open literature, in which one typically sees values of 12.5 to 15 kT.[1] The comprehensive calculation by John Malik gives the value of 15 kT, with an error of 20%.[2]

The 20-kT value was initially given by President Harry S. Truman in August 1945. Physicists at Los Alamos knew it was an overestimate that was based, perhaps, on information Truman had from the Trinity test. But the Trinity test data were for a different type of bomb—a plutonium implosion device, not the uranium gun-type model that was used on Hiroshima.

References

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Correction

January 2003, page 44—The last work cited in reference 4 should be G. Mace, E. Clothiaux, T. Ackerman, *J. Climate* **14**, 2185 (2001). The page number for reference 6 should be 2091. ■