

Comments on "Study of the Post-Attack Environment"

A somewhat more detailed draft of this has been mislaid; so I will recapitulate very hatsily.

The model situation suggested was an ambient radiation level ~~of 20 rads/yr~~ leading to 20 rads/year. Might this not be much more serious than contemporary thinking posits?

A positive answer would then make any residual second-strike capability a more credible deterrent.

However, this could then simply be fed back into weapons design, and the net consequence would be simply to encourage "dirty" bombs, in effect a step closer to the doomsday machine approach to deterrence. That is to say, the study would rapidly move from an arms-control to a military-design context.

Conversely, it would also motivate civil defense planning, and then the further actions and reactions that can be predicted therefrom.

In summary, the study might illuminate the environment to be expected after a given style of attack, but this would in turn be influenced by the technical reactions to the findings. Is this a proper target for our own efforts?

There may be a positive value in studying retroaction effects-- the extent to which a "victor" would be poisoned by global spread of radioactive byproducts. But we do assume that any first-strike would concentrate on acute, short-term damage to military facilities and so on, with relatively little fallout.

What are the realistic possibilities of anticipating the political and social consequences? Do you posit no further military aggression, either by the first attacker, or by neighboring states? Or supportive cooperation? (These factors might loom larger than any others in deciding the outcome of a nation-limited attack.) Again, since the "cooperative support" would be one purpose of a military occupation, such a study again merges into one of strategic design.

(I will retrieve some references mentioned in JD Singer's book @ p.78 <"Deterrence, Arms Control and Disarmament">).

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Biological hazards.

Even at the level of 20 rads/yr (administered chronically) the "health cost" of radiation is likely to be about \$100 per man rad, or less. Overkill at higher doses, and a lower marginal value of another life (triage) would in fact reduce this considerably in a post-attack environment, assuming many casualties from physical destruction. The chronic impairment of productivity (in the framework of the present-day economy) would be about 10% of the health-value.

Direct effects on crops etc at this level would be negligible, except for the transport of health-hazardous radioisotopes to man. One can say that there is a chance that the man-effective radiation dose post-attack has been underestimated for neglect of ecosystem factors, but I doubt if this is a decisively large factor.

Woodwell has edited a monograph on Ecologic Effects of Nuclear War (Brookhaven). I will be glad to get this out, and to review the radiobiology for the group if you are interested.

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