

Risk assessments must be repeated frequently in order to uncover existing patterns of risk-acceptance. In doing this, attention should be paid to the ignoring of hard, non-social information; the fragmentation of complex situations of risk; the misleading reinterpretation of soft, social information; and the addition of new knowledge to the base of "hard" and "soft" information. Many individuals, especially policy-makers, have virtually ignored facts that contradict the "basis of nuclear strategy." For example, the electro-magnetic pulse from high-altitude nuclear detonations would probably cripple current US command, control and communications procedures during attack, and the phenomenon of nuclear winter could render irrelevant the concept of "limited" nuclear war.

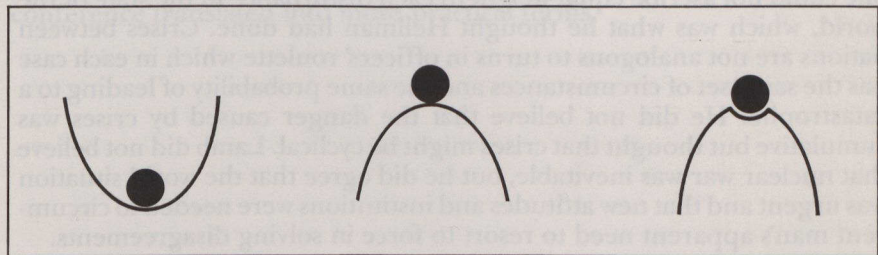
In summary, risk analysis will not produce a definitive assessment of the risk of accidental nuclear war, but it will allow peace researchers to give some estimate of its likelihood and the damage it would cause. Such an assessment may have a persuasive effect on those who would otherwise deny the magnitude of the risk.

Martin Hellman's paper modelled the inevitability of nuclear war under current circumstances. Central to his argument was the concept of stability:

Stability has always been a critical consideration in the design of systems ranging from aircraft to national economies. But nowhere is stability more important than in the design of national defense systems in the nuclear age. Proponents of the MX and other counterforce weapons systems often justify their proposals by noting that deterrence in the form of Mutual Assured Destruction is unstable: even a small-scale Soviet attack would require an American response which would lead to all out nuclear war. Similarly, opponents of these same weapons systems point to a crisis instability engendered by a "use them or lose them" mentality.

Hellman noted that each argument had some merit but that the apparent paradox could be resolved only by differentiating between short- and long-term stability. Hellman introduced three figures representing physical models of stability:

Figure (I): Stable, unstable, and metastable systems.



a) Stable System

b) Unstable System

c) Metastable System