Political considerations had made Frei cautious about the prospect of measures to prevent accidental nuclear war. He argued that some unilateral measures, such as the West's removal of Pershing II's from Europe, or the adoption of a 'no-first-use' policy, would exchange the risk of accidental nuclear war for other risks, such as the Finlandization of Europe or the break-up of US security guarantees to Europe. In addition, such unilateral measures might

> . . . invite the Soviet leadership to push forward again by a policy of *fait-accompli*, as it has done by deploying the SS-20 missiles, in order to create "leverage" and produce a "bargaining chip".

Frei seemed to treat bilateral or co-operative measures with even more caution. He pointed to the very real cultural differences between East and West, which might tragically impede successful co-operation. Making use of a classification developed by Joseph Nye, Frei envisioned three types of co-operative measures: (i) crisis management, (ii) crisis prevention, and (iii) long-run stabilization. Frei judged categories (i) and (ii) to be highly workable, but suspected that ". . . the goal of long-run stabilization may very probably already go beyond the confines of US-Soviet cultural community." He suggested that rather than abandon the goal of long-term stability, the West should develop a variety of measures to prevent or to manage crises with the deliberate intention of placing them in a "stabilization framework."

Brian Crissey's paper, which was accompanied by a live demonstration of the computer simulation, developed mathematical accidental nuclear war models by linking them to models of the arms race. This shows that the probability of accidental nuclear war "evolves" over time as the arms race proceeds. The model is built on the assumptions that growth in technological complexity, in the amount of space debris and in the number of weapons is directly linked to accidental nuclear war: that the probability of superpower crises is constant over time; and that the strategic window of decision time remains constant at 8-10 minutes. Even though models of this sort are not designed to produce reliable values, but rather to allow the researcher to "play" with alternative assumptions and parameters, two results of Crissey's simulation are of interest. First, the model "predicts" a sharp increase in the probability of accidental nuclear war in the early 1980s and a slower increase thereafter. Second, the model predicts that the probability of an accidental *Soviet* launch is far greater than an American one.

Anatol Rapoport provided a critique of Leonard, Sennott and Frei's papers. He emphasized that in analysing accidental nuclear war, equal attention should be paid to probabilities and what he termed, "utilities." The purpose of risk assessment is to allow decision-makers to make informed choices between alternatives. This is straightforward only if numbers can be assigned to the different alternatives in order to reflect their relative degrees of desirability or undesirability. Utilities are determined by compounding the values of possible (foreseen) outcomes of our