

# First strike

Sixty years ago, Albert Einstein said that the existence of nuclear weapons would require humanity to change its way of thinking. Since the bombing of Hiroshima and Nagasaki in 1945, many physicists, including Einstein, have argued that the first use of nuclear weapons can never again be justified. But, with the end of the cold war, the political, if not moral, reasons why initiating a nuclear attack is a bad idea seem to be fading from public and political debate.

For example, of late, one hears talk of developing 'small nukes' that might be used as bunker-busters, or against enemy troops in battle. This new cavalier approach to nuclear war has prompted groups such as the American

Physical Society to issue statements of concern about the pre-emptive use of nuclear weapons.

It may surprise some that the US has no strict anti-first-use policy. Rather, the US policy, stated in 1995 and reaffirmed in 2002, reads: "The United States reaffirms that it will not use nuclear weapons against non-nuclear-weapon state-parties to the Treaty on the Non-Proliferation of Nuclear Weapons, except in the case of an invasion or any other attack on the United States, its territories, its armed forces or other troops, its allies, or on a state toward which it has a security commitment carried out, or sustained by such a non-nuclear-weapon state in association or alliance with a nuclear-weapon state."



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The loopholes in this policy are large enough to start a nuclear war. The APS has urged a full discussion about the circumstances under which the US might use or threaten to use nuclear weapons, and the consequences for non-proliferation. This seems appropriate. Physicists created nuclear weapons, and although other threats are occupying the public imagination, physicists may have a special responsibility to help preserve the nuclear peace.

Einstein's hope of new thinking in a nuclear world may be too much to expect, but I hope, in these dangerous times, that rational thinking about nuclear weapons is not going out of style.

**Lawrence M. Krauss**