

States of the Union

THE LITTLE KERNEL

BY RICHARD J. MARGOLIS



EDWARD TELLER

E CAMBRIDGE TYMOLOGICALLY speaking, “nuclear” and “nut” have something in common, both deriving from the Latin *nux*, meaning kernel. So we need not be surprised that this dowdy city of nearly 100,000 souls, some of them possessing marketable IQs, has

lately been going nuts over nuclear questions ranging from outer space to inner conscience.

Harvard, as usual, has provided the polis as well as some of the fireworks. In October all seven Democratic candidates for President (predating the Age of Jackson) arrived in dark suits and striped ties to expatiate on nuclear disarmament before a packed house of unaccustomedly subdued academics. Their tameness may have had something to do with the fact that they were on camera—the show was being televised live—and also with their collective perception that the candidates for the most part were on target.

Walter Mondale said he favored nuclear disarmament even when, as Jimmy Carter’s Vice President, he sometimes seemed to lean the other way. Similarly, John Glenn endorsed negotiations with the Russians even though he voted against Salt II. Ernest Hollings maintained that the best way to get disarmament “is to elect me President.” Alan Cranston pointed out that he was the first candidate to make peace a significant issue. Gary Hart, jumping into the gender gap, praised the women in the audience for deploring war.

Only Reubin Askew opposed a nuclear freeze, and only George McGovern favored a unilateral reduction of nuclear weapons. In the opinion of a half-dozen spectators with whom I talked later that evening, McGovern won the debate. But Cambridge is McGovern country. He triumphed there in 1972 by a two-to-one margin, about the same ratio by which he lost in his hometown of Sioux Falls, South Dakota.

A few weeks later, while some of us were still searching for a kernel of truth, Carl Sagan showed up to warn us of the perils of a nuclear holocaust. “You can win a nuclear war for two weeks,” declared Cornell’s prolific guru of Physical Science, “until the Nuclear Winter sets in.”

Sagan brought along 90 slides to accompany his song of Cassandra. Among other things, he predicted that in the wake of nuclear war the earth would experience a sharp drop in temperature, a partial destruction of its ozone layer and a virtual halt to photosynthesis in plant life. “The extinction of *Homo Sapiens*,” he told us, “cannot be excluded.”

No sooner had Sagan, the ghost of Nuclear Future, departed than the ghosts of Nuclear Past materialized in the persons of Edward Teller, “Father of the Hydrogen Bomb,” and Hans Bethe, the H-bomb’s reluctant uncle. Once again all seats were filled and most faces were solemn. The debate we had come to hear was titled “The Next Development in the Arms Race—Weapons for Outer Space?” Teller took the affirmative, claiming that a space-based laser defense system could be “80 per cent perfect,” and would thus be “far better than nothing.” Bethe, on the other hand, argued that “*Star Wars* will not work. What we are discussing here is a technology that does not now exist.”

Besides, he observed, even if America could somehow develop a laser weapon capable of knocking out enemy missiles, the Soviets could counter by devising a protective laser-shield. The whole cycle, Bethe warned, “could only further the arms race.”

The two septuagenarians, who had worked on the atom-bomb “Manhat-

tan Project” during World War II, were a study in contrasts. Bethe is small and parsimonious in manner; he speaks softly and carries big syllogisms; logic is his constant companion. Teller looms large. He is not particularly overweight, yet his slouching presence reflects ineffable heaviness, a brooding quality that is not easily dismissed.

In general, I tended to be impressed by what Bethe *cautioned* and what Teller *projected*. Bethe spoke to posterity. Teller spoke to the crowd—and sometimes played for laughs, as when he said to Bethe: “Hans, I value your opinion more than that of any single person in this room, but not necessarily more than the opinion of everyone here collectively.” Only at Harvard could that have masqueraded as a joke.

Teller said one thing that I shall not soon forget: “I do not think that nuclear war necessarily means the end of the human race.” The survival of Homo Sapiens, in other words, cannot be excluded.

The Babel of scientific and political voices, broadcast in a variety of moods and accents, formed a fittingly confused backdrop to the main event in Cambridge this year—a November 8 referendum asking voters to decide whether or not to ban all nuclear research within city limits. The ordinance for a “Nuclear Free Cambridge,” on the ballot through the efforts of a citizens’ group called Mobilization for Survival, was rejected by a 20 per cent margin, but not before it had stirred passions that seemed heated even by Cambridge’s overwrought standards.

“This is one city attempting to save the rest of the world,” announced a partisan of the nuclear ban at a City Council meeting one week before the referendum. It was a fair description of a community still intoxicated by Emerson, Thoreau and William James, one that has customarily viewed global salvation as a local responsibility. Cambridge City Hall houses a “Peace Commission”—a clearinghouse for information on nuclear weapons.

The statute that voters decided not to pass on November 8 stipulated that “No person, corporation, university, labo-

ratory, institution or other entity shall, within the City of Cambridge, engage in work the purpose of which is the research, development, testing, evaluation, production, maintenance, storage, transportation, and/or disposal of nuclear weapons or the components of nuclear weapons.” Exemptions would be granted for “the research and application of nuclear medicine” and for “basic research, the primary purpose of which is not to work toward the development of nuclear weapons.”

Exemptions aside, in the view of many businessmen and professors the prohibition seemed too broad for comfort. Scientists feared that the law could be applied in ways that might restrict academic freedom. That is why the presidents of both major universities in town—Harvard and the Massachusetts Institute of Technology—broke custom and publicly opposed the referendum. “It is a dangerous precedent,” declared Harvard’s Derek Bok, “for a local community, or any governmental body, to forbid particular kinds of research because they might lead to dangerous or undesirable consequences.” For good measure, he called the act “intolerably vague” and probably in violation of the First Amendment.

Not everyone at Harvard objected, however. George Wald, a biology professor and Nobel Laureate, went out of his way to respond to Bok. “What does academic freedom mean?” he asked in an interview with the *Harvard Crimson*. “Science is understanding, and what understanding do you reach if you are making a more destructive weapon?” Another Harvard biologist, Ruth Hubbard, noted that “there is no unregulated research anywhere in the world.” Government funding, she said, controls scientific policy.

IT WAS THE business interests, in any case, who sounded the loudest complaints. In a not too edifying alliance with labor unions fearing the loss of nuclear jobs, leading research firms like the Charles Stark Draper Laboratories created Citizens Against Research Bans (CARB) and raised an estimated \$200,000 to fight the good

fight. Mobilization for Survival, meanwhile, was collecting \$23,000.

Draper, a fixture on Technology Square near MIT, had much to lose from a city decreed nuclear-free. Eighty-five per cent of its \$140 million budget last year was used for nuclear research, including work on all the major missile systems—Trident, Polaris, Poseidon, and MX. “What we’re doing now wouldn’t stop,” Draper’s president, Joseph F. O’Connor, assured Cambridge voters before the referendum. “It would go on somewhere else. We’d simply leave.” It is hard to redeem a world crisscrossed by local jurisdictions. In this case all Satan needed was a haven across the Charles River.

Not surprisingly, each side accused the other of drawing support from alien or unsavory sources. CARB was said to have brought in a political consultant from the West, a big gun from Idaho, and to have received most of its money from a sagging nuclear industry nationwide. The nuclear-free movement was not helped by an editorial endorsement appearing in *Izvestia*. The lesson here may be that if you are going to plunge into global issues, you will have to accept the global political consequences.

It is easy to sympathize with the Mobilization for Survival folks in their losing cause, and to understand why they lost. The kind of protection they offered—the chance to take a symbolic stand against the nuclear inertia that both surrounds us and propels us toward the unthinkable—cannot compete with the daily protections we crave, cherish or fear to lose, namely the freedom to follow our noses and feather our nests. If passage of the referendum could not appreciably reduce the risk to life, to many it threatened a reduction in the right to liberty and the pursuit of happiness.

Still, anyone who has seen Sagan’s wasteland slides, or who has listened to Teller’s tales of a tolerable nuclear catastrophe, can readily see the point of cleaning up the neighborhood. Increasingly now, we find that we are a republic of place-bound citizens in desperate search of planetary solutions. In times like these, what we *can* do we *must* do.