MX Missile Plan Attracts New Critics

The Townes panel sees a flaw in the Pentagon's deployment proposal

Opposition to the military's proposed MX missile intensified while the Reagan Administration labored over selection of the missile's deployment scheme. Several weapons experts asserted anew that the missile is unnecessary in any form, while politicians and lobbying groups made fresh attacks on one or more of the principal deployment alternatives.

Most of the criticism was directed at the shelter deployment method proposed last year by the Department of Defense. The plan was to hide 200 missiles among 4600 missile shelters to ensure that some would survive a Soviet attack. Congressional sources say that the proposal probably could not be approved in either the House or the Senate. The House subcommittee on public lands and national parks, which would have to approve the transfer of thousands of acres of public lands to the military, said in a recent staff report that the plan "would be a wasted investment of land, money, and resources." Similarly, four of the President's conservative Senate supporters—William Roth (R–Del.), Paul Laxalt (R–Nev.), Jake Garn (R–Utah), and Harrison Schmitt (R–N.M.)—said that the plan would unduly disrupt life in the Southwest, where the shelters would be constructed.

Technical objections to the shelter deployment method center around the possibility that the Soviets could install additional warheads faster than the shelters could be constructed, permitting them to target and destroy each shelter in a theoretical first strike. Without the SALT treaty, which was scuttled in the Senate last year by many of those now pushing the MX, the Soviets cannot be counted on to curtail their weapons building. The Defense Department might decide to double the proposed construction rate, but only at great additional expense and environmental damage. Unfortunately, it would have to make the decision long before the Soviet's warhead-building intentions become known. A shrewd Soviet strategy would be to feint in the direction of many warheads, and then to back off and enjoy the spectacle of the United States committing billions of dollars to an endeavor that will prove to be largely unnecessary.

This problem has been pointed out by a number of experts, including members of a federally appointed panel led by University of California physics professor Charles Townes. The panel recently told Secretary of Defense Caspar Weinberger that the shelter basing system should be considered only in conjunction with a treaty limiting the number of Soviet warheads, and that a shrewd strategy might be to pursue both at once, while keeping open other deployment options in the event that an agreement with the Soviets cannot be reached.

A way around this difficulty, urged by some in the military establishment and Congress, is to incorporate antiballistic missiles (ABM's) into the shelter deployment. Two ABM's would be placed inside a container disguised as a missile, to be shuffled with the MX and its decoys in shelter clusters. The Pentagon reasons that the presence of the ABM's would force the Soviets to target two warheads at each shelter, thereby halving the number of shelters that must be constructed to keep pace with potential Soviet warhead production. A recent report on the MX by the congressional Office of Technology Assessment (OTA) listed three drawbacks to the plan. One is that it would violate the current ABM treaty with the Soviets. Another is that the military has yet to settle on an ABM design and will not know for several years if the ABM is technically adequate to meet its requirements. A decision about using ABM might have to be made before an answer is obtained.

> Scoville calls the MX "an invitation to an accelerated and endless arms race."

The third drawback is that the entire scheme depends on the Soviet's ignorance of the ABM and MX locations. The OTA report is the first to explain in detail how difficult it would be to ensure location secrecy, a burden that may ultimately render the entire concept foolhardy. Thermal, acoustic, and optical sensors controlled by the Soviets will carefully monitor such obscure signatures as tire deformation and sway around corners when the MX, the ABM, and the decoys are traveling by truck between shelters. Seismic waves from the truck's movement, ground tilt beneath the truck, chemical emissions from the missile, and the quantity and distribution of magnetic material in its housing can all be detected from a distance, the OTA report says. Replicating all of these characteristics is "a genuinely new problem and not a simple extrapolation of past engineering efforts. . . . Confidence will be limited until prototypes have been treated. Even then lingering doubts might remain," because it would be difficult to know if the Soviets ever caught on.

Herbert Scoville, the president of the Arms Control Association, notes in his new book, *MX—A Prescription for Disaster*,* that "in the long term, it is likely that this uncertainty of successful detection will grow. Some people will proclaim that the Soviets have learned the secret of which shelter has the missile. No one will be able to prove them wrong. . . . Finally, it will be decided that deception is a losing cause. Instead of having only one missile in one shelter per cluster . . . missiles will be procured for all shelters." That, among other reasons, is why he calls the MX "an invitation to an accelerated and endless strategic arms race with no winners."

Unlike many in the arms control community, Scoville raises no challenge to the strategic thinking behind the MX. The Pentagon has justified the missile with claims that the Soviets will next year begin installing improved guidance systems on their ICBM's, permitting them to accurately target and destroy virtually the entire U.S. land-based (Minuteman) missile force in a first strike. Government officials in succeeding Administrations have termed this a serious threat to the nation's defense, albeit one that could be fixed at the earliest 8 years after it begins.

Only recently has the assumption begun to be challenged aggressively. Christopher Payne, a staff member of the Federation of American Scientists, told the Townes panel that "responsible offi-

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cials have been burying Minuteman with unseemly haste." Both he and Kosta Tsipis, a weapons adviser and physics professor at MIT, claim that missile failures, communications breakdowns, and guidance errors would all limit the success of a Soviet first strike, as would the possibility that U.S. missiles would be launched before attacking missiles ever exploded. That and the possibility of retaliation from submarines and bombers is sufficient deterrence, they say. Therefore, the MX is not needed for deterrence. George Rathjens, another weapons expert at MIT, also says that the United States need not be concerned about Minuteman vulnerability. He says that advocates of one deployment scheme or another have been "giving away the ball game."

—R. JEFFREY SMITH

Institute, Keratotomists Don't See Eye to Eye

Physicians challenge National Eye Institute for funding clinical trial to test new type of eye surgery

A new and relatively simple surgical procedure that reportedly eliminates the need for eyeglasses or contact lenses to correct nearsightedness has touched off an acrimonious debate between practitioners of the surgery and the National Eye Institute. Surgeons who perform the procedure, known as radial keratotomy, argue that the institute is suffering from its own case of myopia by funding an expensive 5-year evaluation of the surgery's safety and effectiveness.

The keratotomists say the surgery has been performed on 1500 patients and that the data are available for the asking. Furthermore, they contend that the evaluation—a $2.4-million grant—was awarded despite conflict of interest among the advisory committee members. There is an even broader issue, they say. At stake "is the role of the private practitioner in research," says Ronald Schachar, an ophthalmologist in Denison, Texas, who says he has performed radial keratotomy on hundreds of patients.

On the other hand, eye institute officials point out that very little about radial keratotomy has been published in refereed journals. Although the keratotomists contend that data have been collected, the institute has yet to see this information. Given the paucity of data, officials say, the institute has funded a controlled clinical trial to test the surgery's safety and effectiveness. The officials note that, in the past, apparently successful surgical techniques became widely used before a thorough evaluation was made.

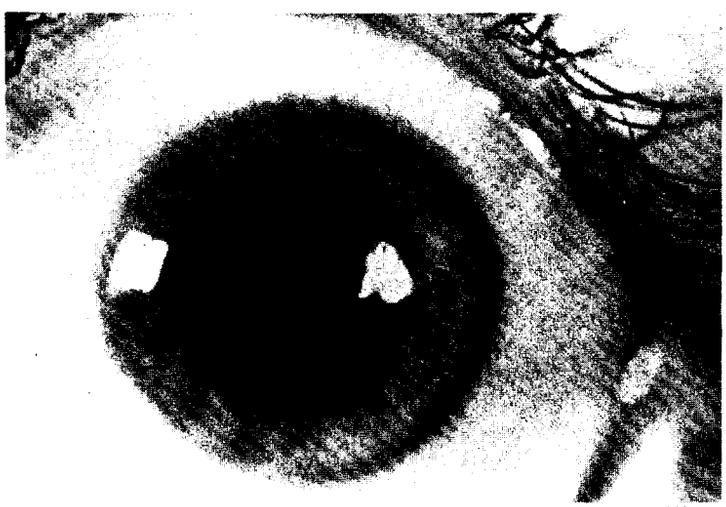
The surgery is a 30-minute procedure performed on an out-patient basis. The eye receives a topical anesthetic and small delicate incisions are made on the cornea so that it bulges slightly, thereby correcting the myopia.

The surgery was first reported by a Russian ophthalmologist 7 years ago and has gained rapid popularity in the United States in the past year. Schachar estimates that 500 eye specialists now perform the operation. In May 1980, the eye institute's advisory council said that radial keratotomy should be considered an experimental procedure and urged restraint in its use. The American Academy of Ophthalmology, which represents most of the country's 10,000 eye specialists, has issued a similar warning.

But already hundreds of nearsighted eye patients have undergone the surgery. With a price tag of $1000, the surgery is an expensive alternative to corrective lenses. Given that 10 million Americans are nearsighted, the eye institute is concerned about the surgery's short- and long-term effects. At the suggestion of the eye council, the institute called for grant proposals to evaluate the procedure and last fall awarded its grant to a collaborative group of eight institutions. The study, known as PERK (Prospective Evaluation of Radial Keratotomy), is headed by George Waring of Emory University. Investigators are now screening patients to find 480 who are suitable for their controlled study.

After the PERK study was funded, keratotomists complained to the institute that they already had enough data to judge the safety and effectiveness of the surgery. They also took their complaint to Representative Eugene Johnston (R–N.C.), who underwent a radial keratotomy last year and is a satisfied patient. Johnston, who is a member of the Budget Committee, wrote the institute that the PERK study "would reinvent the wheel." The institute took heed and held a meeting last month to let the keratotomists present their data that purportedly would answer the questions posed in the PERK study.

The meeting was held to discuss data from two groups, the National Radial Keratotomy Study Group and the Keratorefractive Society. Both groups are composed of practitioners who voluntarily submit patient data to a central registry. But the eye institute never re-



Leonard Kogen

Focus of debate: patient's eye after surgery with eight incisions.

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