

No Time to Slack Off on Arms Control

ONE of the disappointments of the Spring APS meeting in Washington was the apparent slackening of interest on the part of physicists in the problem of arms control and disarmament. The special session devoted to this topic attracted only a sparse turnout this year, compared to the standing-room-only response at the session on ABM in the same meeting last year. Concern about Vietnam, the environment and employment pre-empted the attention of physicists this year, just as in the public press these urgent topics have crowded news stories on nuclear escalation off the front page and well back among the department-store ads.

But somehow we must manage to keep in mind that it is still true that by far the greatest source of danger in our environment today are the thousands of nuclear ICBM's poised in launch positions waiting for the signal to deliver instant death to hundreds of millions of people. The general let-up in concern about this danger comes at a bad time—just as the Strategic Arms Limitation Talks are getting underway.

Ever since the Bomb became a problem, the voices offering the most articulate and informed opinions about arms control have quite often belonged to physicists. But who will take over someday for the Bethe's, the Lapp's and the Teller's? Where are the young physicists we should hope to find grooming themselves to become experts in this area?

Granted that planning for arms control has so far proved to be a highly frustrating occupation, the SALT discussions offer a valuable opportunity to make the first tangible progress. New ideas and possibilities are being generated that deserve thoughtful analysis. At the Washington meeting Ralph Lapp reminded us that a first logical step in the control and eventual reduction of nuclear weaponry would be a decision by the two superpowers, unilaterally or in consort, to adopt "stable" deterrent systems. (A stable system is one that provides a credible retaliatory second-strike deterrent and yet is plainly inadequate to be used for an offensive first strike.) Lapp argues that a subma-

rine missile fleet is an example of a stable system. Since the submarines are highly invulnerable to an opponent's surprise first strike, as few as 30 of them would clearly provide enough surviving capacity to strike a devastating retaliatory blow (destroy most major cities) while this number of vessels (taking into account the relative inaccuracy of submarine missiles) just as clearly could not mount a credible first strike (destroy most missile sites).

By contrast, land-based missile systems in the age of ABM and MIRV have become unstable systems. Each of the opponents is forced continually to escalate in seasaw fashion the MIRV and ABM capability of their land-based systems to ensure that the warheads that survive a first strike would be enough for effective retaliation.

At the same session a second speaker, Patrick Friel, made the interesting proposal that the United Nations be set up in the business of monitoring the sizes of both nations' strategic forces with reconnaissance satellites and that henceforth all the information gathered about the two opposing systems be made public. The idea is that the destructive power of these forces is so great that disclosure of their sizes and technical characteristics in no way compromises the security of either nation.

More recently, how many people saw the news story from the SALT talks (which appeared in the back pages of *The New York Times*) reporting that the US delegation has proposed that ABM systems in the two countries be limited to defending Moscow and Washington? The Soviets are said to have "expressed considerable interest" in this intriguing proposal.

Even though arms control does not happen to be one of the topics foremost on campus agendas this season, it is crucial that in responding to the needs of other areas physicists not decrease their contributions to the thinking in this area. After all, unless we have reason to feel confident that we can eventually solve the problem of nuclear escalation what point is there in worrying much about environmental and social reforms?

—Harold L. Davis