

turbances of the crystal symmetry and small contaminations quickly lead to individual shifts in the nuclear states, and these shifts, as a group, produce a very considerable broadening of the extremely sharp lines. In this way the resonance condition is so far violated that the lines are not observed. However, there is a well-founded view that still more sharply defined nuclear transitions will be available before long.

These should lead to multiplication of the possibilities for applying the method of recoilless absorption. We may therefore hope that this young branch of physics stands only at its threshold, and that it will be developed in the future, not only to extend the application of existing knowledge but to make possible new advances in the exciting world of unknown phenomena and effects.

References and Notes

1. W. Kuhn, *Phil. Mag.* **8**, 625 (1929).
2. P. B. Moon, *Proc. Phys. Soc. London* **64**, 76 (1951).
3. R. L. Mössbauer, *Z. Physik* **151**, 124 (1958).
4. K. G. Malmfors, *Arkiv Fysik* **6**, 49 (1953).
5. W. E. Lamb, Jr., *Phys. Rev.* **55**, 190 (1939).
6. R. L. Mössbauer, *Naturwissenschaften* **22**, 538 (1958); *Z. Naturforsch.* **14a**, 211 (1959).
7. R. V. Pound and G. A. Rebka, Jr., *Phys. Rev. Letters* **4**, 337 (1960). A complete bibliography of all pertinent researches is included in H. Frauenfelder, "The Mössbauer Effect," to be published in the series "Frontiers in Physics" (Benjamin, New York).

News and Comment

Arms Agency: Executive Order Gives It a Boost at a Time When Its Prestige Is Sagging

The President has directed that the Arms Control and Disarmament Agency (ACDA) is to be the leader in inter-agency consultations on disarmament matters.

The delegation of authority to ACDA was spelled out 21 August in an executive order that the White House described as a routine matter; the Act establishing ACDA specified that it is to be the President's and Secretary of State's principal adviser on disarmament affairs and coordinator of the work of other agencies in the area. As is often the case with general legislative mandates, an executive order follows to fill in the details.

Presidential Prestige Needed

In this case, however, the executive order comes at a time when ACDA needs a good dose of presidential prestige. The agency, established after a long and difficult campaign by scientists and political leaders who were concerned about the quality and continuity of American efforts to achieve disarmament, finds many of its friends quietly concluding that they are disappointed in its performance. The disap-

pointment has been kept fairly well out of public view, since those who feel it have decided that if the agency is sickly, no useful purpose would be served by subjecting it to open attack. This restraint, however, is lessening now that ACDA is nearing its first birthday, and at a number of points dissatisfaction with the agency's performance has come out into the open, or will do so in the near future.

The most prominent indication to date of disappointment with ACDA appeared on 26 July when 17 members of the House sent President Kennedy a carefully worded, mild statement of concern about the role of ACDA in American disarmament efforts. The letter, which was far more restrained than the privately expressed views of many of its signers, expressed the hope that "the Disarmament Agency will assert more active leadership within the Executive Branch on disarmament, and will view its mandate as one of exploring creative and imaginative new approaches. The Agency should take the lead in developing alternatives to the present spiraling arms race in which, as you said at the United Nations, 'a nation's security may well be shrinking even as its arms increase'." Significantly, the letter was signed by Rep. Chet Holifield, chairman of the Joint Com-

mittee on Atomic Energy, which has been a center of what might be called "hardline" thought on disarmament.

Yet to come into the open, but now quite close to the surface, are the contentions of a number of long-time students of disarmament to the effect that ACDA is taking a very narrow view of its responsibilities for achieving disarmament. Persons within the agency have complained that the leadership of ACDA shows little interest in investigating such complex matters as the disarmament problems inherent in military space applications, the relationship between civil defense and East-West tensions, and the economic problems involved in a reduction of armament. They contend, further, that the agency has taken positions of far-reaching importance in an off-the-cuff fashion without first attempting the sort of thorough research effort that ACDA was supposed to bring to the complex issues of disarmament.

To some extent, the disaffection within the agency could be written off as normal for any organization, but especially for one that is dealing with problems that offer no easy solution. In this case, however, the impression exists that much more is involved than routine griping. There are no precise yardsticks that can be applied in this matter, but one indication of the agency's performance to date is that it has aroused very little interest among the many vigorous and talented academic and scientific groups concerned with the problems of arms control and disarmament. Some of these groups have associated themselves with positions that are not espoused by the agency, and therefore it is not surprising that no cordial relationship has developed. But many whose thinking is very much in line with Administration thinking have also failed to develop any sense of rap-

port with ACDA. The fault here may well be on both sides, but a number of persons whose talents are considerable and whose views are generally consistent with those of the Administration have privately said they do not feel any kinship with ACDA.

One by-product of this feeling is the difficulty ACDA encountered in its recruiting efforts. Its staff contains many persons of outstanding and widely recognized abilities, but recruiting has turned out to be a long and difficult process, principally because the agency has aroused little enthusiasm among those whose qualifications it requires. Many federal agencies have recruiting problems, but the reason frequently offered in the case of ACDA is that persons approached to take jobs feel they would be in a better position to further the cause of disarmament outside of ACDA.

While ACDA is nominally the principal government agency for achieving disarmament, the curious fact is that the Department of Defense, under its present management, has become the most dynamic center for disarmament studies within the government. The stereotype of the Defense Department as a force against disarmament is too well established to meet a quick death; nevertheless, students of disarmament have been gravitating there in increasing numbers, and many of them contend that they find a better reception than at ACDA.

There are several reasons for this, but principal among them is the fact that Defense Secretary McNamara, probably more than any of his predecessors, is convinced that while the United States must not fall behind in the arms race, it must also recognize that the race itself is terribly hazardous and that it is just as important to find the way out as not to lose the competition.

Disarmament and Defense

In a little-noticed speech last month on "Disarmament and defense," McNamara's chief deputy, Roswell L. Gilpatric, spoke to this point. The occasion was a symposium at the Air Force Academy on ballistic missile technology, not a likely setting for a speech stressing the importance of achieving disarmament or arms control. Nevertheless, Gilpatric made a number of points that might well have originated with ACDA, but, typically, did not.

"There is a need," he said, "for all

of us in the defense establishments of the countries involved [in arms competition] to play a useful and affirmative role in the field of disarmament. It is a role going beyond simply recommending a yes or no to various points on the proposals we are asked to consider. We must come forward ourselves with constructive proposals.

"We must ask ourselves," Gilpatric continued, "not merely, 'What can we stand, in the way of disarmament and arms control, without weakening our security,' but 'What can we suggest that will add to our security.' This is an enormously difficult area. It is easier to think merely in terms of building ever stronger defense. But I have no doubt that if the defense establishments on both sides face up to the situation, arms control proposals can be developed which will add to the security of all nations without significantly jeopardizing the legitimate interests of any. . . ."

"The factors of stability and of the dynamic effects on the arms race should be considered in every decision we make, whether in the area of strategic doctrine, force structure, or research and development. . . ."

Gilpatric also stated that while the goal should be to achieve arms control or disarmament without impairing the nation's security, "this does not mean we should reject any disarmament agreement in which we perceive some risk, any more than we should accept any agreement in the name of disarmament without realistically assessing the risks involved. . . . This approach," he said, "leaves the extremists at both ends unhappy, with the result we may be called warmongers by one side and appeasers by the other. But between the alternatives of being called names or of blundering into a situation where either nuclear war or surrender is virtually inevitable, it is better to be called names."

Views of this nature have simply not been forthcoming from ACDA. Part of the reason, of course, is that the Defense Department is immune to any "soft-on-communism" charges, whereas ACDA, as a fledgling agency in a politically sensitive area, is well-advised to watch its political flanks. This may account for the far tougher disarmament line that ACDA's director, William C. Foster, has expressed in his speeches. For example, last April at Cornell University, in an address on "Disarmament: The continuing search," he declared, "All I can say is that the United States

must know full well what it is doing before it disarms a single bomb or missile. If this sounds tough, let it." The view expressed here can be reconciled with Gilpatric's, but an uninformed guess would be that such words originated in the Defense Department, not in ACDA.

The effect of Kennedy's executive order on ACDA is to clear the way for the agency to assert itself in the community of federal agencies dealing with disarmament matters rather than to elevate it to a position of absolute authority.

The order directed that ACDA shall establish procedures for harmonizing interagency positions and "shall exercise leadership in assuring that differences of opinion concerning arms control and disarmament policy and related matters are resolved expeditiously. . . ." At the same time, Kennedy left open a clear path to the White House for agencies that differ with ACDA. "Differences of opinion . . . arising between [ACDA] and other affected agencies with respect to such subjects which involve major matters of policy and cannot be resolved through consultation shall be promptly referred to the President for decision." The executive order could have been stronger in behalf of ACDA, but in view of the scant influence that has been wielded by the agency up until now, Kennedy appears to have spared it many problems by refraining from saddling it with responsibilities disproportionate to its potency.

In Congress, meanwhile, ACDA seems to have done well financially. Its budgetary request was for \$6.5 million; the House, which would be the most likely point of difficulty for the agency, granted the full amount. It denied the agency permission to use \$6000 of this sum for entertainment purposes, reflecting a pet peeve that some congressmen have about government funds going for cocktail parties. The Senate is expected to go along with the budget request. The appropriation this year will bring ACDA very close to its \$10 million authorization; if the agency is to expand or finance any broad program of research—it has let fewer than a dozen research contracts so far—the Administration will have to lay its case before Congress sometime next year. At that point, congressional sentiment, a matter about which ACDA is quite jumpy, will become easier to gauge.

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