

## NORTH AMERICA

# The Anti-McNamara Missile

THE new President of the United States has been more successful at winning friends than enemies since his inauguration in January, which is why it is a pity that he and his advisers have now flown straight in the face of reason by resolving to build a watered-down version of the Sentinel anti-ballistic missile system which Mr McNamara implausibly and even unwillingly foisted on public attention in September 1967. To be sure, Mr Nixon's decision has not been simple. In the past few weeks, he has been assailed by conflicting arguments about the rights and wrongs of ABMs. Strategists have been involved on both sides. So have voters. There are also awkward questions about the international political repercussions of a decision which would open another chapter in the post-war history of armaments—it could, for example, complicate or even prevent the agreement with the Soviet Union on the limitation of strategic missiles on which Mr Nixon—or at least his chief adviser, Mr Henry Kissinger—has set his heart. In the circumstances, Mr Nixon would have been forgiven if he had wriggled out of a definite decision, one way or the other, at this early stage in his presidency. The compromise which he has now designed is less easily excused, if only because it is likely to displease everybody, hawks and doves alike.

The most obvious casualty of Mr Nixon's decision is the train of reasoning with which Mr McNamara justified the original plans for an ABM system. That may be no more than the San Francisco speech deserved. To many who heard it, it was a lucid demonstration that the United States had no need of an anti-ballistic missile system in September 1967. Quite properly, Mr McNamara pointed out that in the nuclear balance which has implicitly been struck between the Soviet Union and the United States, a crude comparison of the power of the nuclear explosives or the numbers of nuclear rockets accumulated by the two nations is quite unimportant. What matters is that each country has built up the capacity to inflict an unacceptable degree of damage on the other even if it should first itself be attacked with nuclear weapons.

Mr McNamara's high reputation as an international statesman derives from the skill with which he persuaded strategists and politicians everywhere that the concept of a pre-emptive strike is not merely pointless but dangerous. That is what is called the nuclear balance. To be sure, it is theoretically possible that one nation or another could upset this equilibrium by fitting itself out with an ABM system so effective as to guarantee immunity from a second strike. As

recently as fifteen months ago, Mr McNamara was insistent that the hope of such an efficient means of defence could only be an illusion. He said quite openly that

“none of the systems at the present or foreseeable state of the art would provide an impenetrable shield over the United States. . . . If we could build and deploy a genuinely impenetrable shield over the United States, we would be willing to spend not 40 billion dollars but any reasonable multiple of that amount. . . . There is clearly no point, however, in spending 40 billion dollars if it is not going to buy us a significant improvement in our security. . . .”

All this was a surprising prelude to the announcement that the United States would, after all, build what is now called a “thin” system of ABMs. In retrospect, it is now even more evident than in 1967 that Mr McNamara's speech was not so much intended for his public audience as for his colleagues in the Administration, for he was then able to conclude that an ABM system would be justifiable only if it were intended as an alternative to conventional forms of physical protection for strategic missile sites or as a defence against the threat of a suicidal attack on the United States from China.

The recent history of the Sentinel project has been scrappy, in part no doubt because of the presidential election. To begin with, some of the planners were surprised that the cities which protested about the siting of ABM bases were not those left unprotected but those expected to live alongside the Spartan rockets—the long range component of the Sentinel system. Depression and even despair about the Vietnamese war have probably made more pointed the protests in the past few weeks. The return of a Republican Administration has also helped to free several Democrats in Congress for active opposition, but even that does not quite explain the clamour there has been. There have been pressures in the other direction, however, and it is clear that Mr Melvin Laird, the new Secretary of Defense, is speaking for the Joint Chiefs of Staff when he urges that ABM defence is essential for the safety of the United States. The pity is that Mr Laird has not been able to make a case for the ABM system now to be built in terms which can match Mr McNamara's arguments against them. If he is not careful, all the old mythology of the Pentagon as the citadel of unreasonable devotion will be common currency again.

What does all this promise for the future? The best that can be said is that Mr Nixon's compromise will



at least help to rid the ABM argument of some of the distractions of the past few months. By deciding to concentrate the defensive missiles near the strategic missile sites, local populations will be less up in arms. And although the cost of the new system is increased from \$5,000 million to \$7,000 million, less of the money will be needed in the year immediately ahead. By all accounts, indeed, the Administration is planning to begin work on only two out of ten sites, which is at once a means of giving the military people something on which to work without committing too much—in prestige as well as money—to the new weapons. At the same time, Mr Nixon seems to have done his best to keep in touch with the Russian Government in the past few days, which is at least a sign that he recognizes the delicacy of the talks on strategic missiles, not yet begun. The difficulty for the rest of us as well as Mr Nixon is that this compromise cannot last. In particular, if this decision is not followed quickly by some real talks on missiles with the Soviet Union, the United States will be up to its neck again in an unprecedented spate of military expenditure from which nobody will be better off.

Much will depend on what happens in Congress in the weeks ahead. The Administration will have to ask for the extra money, probably next week. It will be surprising if Mr Laird can get his supplement without providing a much fuller statement of his aims than has appeared so far. In passing, it will be interesting to see whether he can convince the critics of his policy that the Sentinel system is effective enough to justify the money that will be spent on it. So long as point defence depends on nuclear-armed rockets with a range of 25 miles (called Sprint), it needs only the back of a small envelope to know that multiple re-entry vehicles would be a better investment. But the real need is that the Administration should also provide a convincing account of what it plans to do about the missile talks with the Soviet Union. A year ago, there seemed a chance that something might be done. Now that the Senate has surprised everybody, itself included, by ratifying the non-proliferation treaty, the time could be ripe for another try. This is the only way out of the box which Mr Nixon has made for himself.

#### EARTHQUAKE RESEARCH

### Aftermath of Alaska

THE National Academy of Sciences, represented by the Committee on the Alaska Earthquake appointed in May 1964, has reacted to the damage which was then caused by a strong plea for more financial support for earthquake research of various kinds. Panels appointed by the committee are hard at work on a number of technical studies of various aspects of the Alaska earthquake, the first of which—on hydrology—has already been published. The committee's general argument about the need of more research appears separately in the form of a report to Dr L. Du Bridge, the President's scientific adviser (National Academy of Sciences, Washington, DC). The general theme of the report is that seismic hazards

are inescapable, and that it is as necessary to work out better designs for buildings and other structures likely to be exposed to seismic shocks as to devise means for the containment of disasters caused by earthquakes.

The committee is especially concerned about the design of buildings, and seems to have been impressed by the way in which a building conforming to the building codes for seismic areas collapsed at Anchorage in Alaska while another building "designed in striking variance to the code and to accepted practice" remained standing. This is why the committee wants to see a thorough investigation of the structural problems of buildings in seismic areas. From this it follows that buildings should be regulated more effectively than at present, and there is apparently a particular need for protection against tsunamis. Dams and similar structures need frequent re-examination. One telling point in the passage which argues for a more thorough system for collecting seismic data in disturbed areas is that the gaps in the network laid down in Alaska make it impossible to learn all the lessons which the Alaskan earthquake could have provided. The tsunami hazard seems to the committee to be a particular hazard; one problem is the difficulty of predicting just when tidal waves will strike and another is that people seem not fully to appreciate the danger.

Forecasting earthquakes would, of course, be the ideal solution to the problems with which the committee has been concerned. Without promising anything, the committee says that there should be more financial support for some of the studies now being pursued which could eventually lead to means of providing "probabilistic" forecasts—measurements of ground movements and associated changes in magnetic or electrical fields and gravitational forces, for example. One step in this direction, according to the committee, would be to strengthen the World-Wide Network of Standardized Seismograph Stations established in the past few years and inspired by the attempts which have been made to detect underground nuclear explosions. Wryly, however, the committee admits that forecasting which is not entirely certain in its predictions may create as many problems as it solves, which is why the immediate objective held out to the policy-makers is an attempt to make those who live in seismic areas aware of the potential hazards.

#### ADMINISTRATION

### Appointments in Washington

THE arrival of the new Administration appears to have left undisturbed a number of senior scientific and technical people. Thus it was announced last week that Dr Thomas O. Paine, acting administrator of NASA since the retirement of Mr James Webb last year, has been appointed as head of the agency. This is a popular decision, for Mr Paine seems quickly to have won the respect and even affection of those who work with him, but it is also hard to see how he could decently have been replaced in the thick of a run of success with the Apollo programme in the past few months. Evidently it would have been a great mistake to engineer an upheaval within NASA before July, but a policy of no-change will also allow more freedom for the committee under Dr Charles Townes which is at work on a new strategy for space research.