

## Disappointment about test bans

*Last week's nuclear test beneath the Nevada desert probably spells the resumption of Soviet tests but need not imply that the end of the world is at hand. But technical people must be more alert.*

IN the end, after a couple of postponements, the threatened US nuclear test beneath the Nevada desert took place last week, the Soviet Union's news agency TASS announced that the eight-month Soviet self-denial on nuclear testing would be ended and people were generally thrown into despondency that the opportunity of concluding a comprehensive test-ban treaty had once again been lost. Luckily, things are not that bad. Both of the major superpowers are probably more realistic than they have been for several years about the need for agreements on strategic arms and about the difficulties of securing them. The plain truth is that, for the past three years, since the painful resumption of negotiations, the comprehensive test ban has not been near the top of the shopping-list canvassed by the United States. The United States has come round to the belief that a deal on missiles of intermediate range in Europe would be worthwhile, that a deal on strategic missiles would be tolerable, but that, while the dream of an entirely novel strategic balance built around the Strategic Defense Initiative remains a gleam in people's eyes, there is no possibility of relinquishing the opportunity of testing novel warheads. There is also the more immediate need to test warheads for the Midgetman missile, the workable alternative to the unworkable MX. These circumstances may be as unpalatable as they are disappointing, but there is no pretending that they are unreal.

Those who would see success in strategic arms control must above all be patient. The handful of agreements won in the past quarter of a century are a sufficient proof of that. So, in a different spirit, is the first-hand account by John Wright of how arms control negotiations are conducted published earlier this year (*Nature* 319, 275; 1986). But it is also well known that a large part of the process by which one partner brings another to the point of signing a treaty that has been agreed in outline consists of public shame. Thus the partial test ban concluded in 1963 came about largely because the two then superpowers (China had not exploded its first weapon) were persuaded by other governments that the dangers of radioactive fallout could not be indefinitely ignored. On this occasion, the Soviet Union has applied pressure of the same kind by offering a test ban, backed up by a voluntary moratorium, but to no avail. The result has been to strengthen suspicions that the United States may not be entirely serious about arms control. The fact that this pressure may have failed on this occasion is neither here nor there, however. What matters is merely that these events should not become impediments to an agreement when the time is ripe. The Soviet Union, to its credit, has said that the question of a test ban may be taken up again when people are so minded; let us hope it has not changed its mind by then.

Meanwhile, it would make sense that people in the West should prepare themselves more deliberately than has been their recent custom for the difficulties that lie ahead. Empiricism must be the order of the day, and the political irreversibility of arms control measures the best means towards more distant agreements. The plain fact, amply demonstrated by recent experience, is that governments that find themselves bound by arms control agreements, even those entered into by their predecessors, are almost always unable to shake loose from

them. This is the spirit in which, last year, the United States chose to lay up a nuclear submarine rather than to breach the unratified SALT II agreement on strategic arms. Similarly, in spite of temptations in the other direction occasioned by the Strategic Defense Initiative (SDI), the United States has not so far thought of tearing up the Anti-Ballistic Missile Treaty but has, instead, sought to preserve appearances by a reinterpretation of the legal ambiguities of the document. (If SDI lasts, the treaty will probably have to be renegotiated, which may be a restatement of the United States position that deployment would turn on disclosure to the Soviet Union.) So the process of arms control is a kind of ratchet. It may be slow, too slow for comfort, but it seems mostly to work in a beneficent direction.)

That does not argue for complacency. Indeed, there are the strongest possible reasons why the technical community should be more active than it has been in clarifying the basis on which agreement may be possible. The comprehensive test ban is a case in point. The abortive negotiations that ended in 1980 had already demonstrated that the technical ambiguities of the seismic detection of distant explosions could be circumvented by remotely sited seismometers. Since then, there has been considerable improvement in the techniques of remote detection. Now there is a rich vein of inventiveness about the ways in which particular objections to a comprehensive test ban might be accommodated (simply by postdating the agreement). There is a host of ways in which other goals might be assured by simple devices such as these, which come more naturally to technical people than to the politicians in which these momentous issues are constitutionally entrusted. Something, the technical community may conclude, should urgently be done. □

## Perceptions of Europe

*Europe is repeatedly offended by what it sees as US aggression in commercial matters.*

FOR the past several weeks, electronics companies in Europe have been in a state bordering on paranoia over the prospect that the governments of the United States and of Japan would come to a commercial arrangement about the prices to be charged for microchips, initially in the United States but probably throughout the international market for these devices. The issues are simple (see p. 567). For several years, but insistently in the past several months, US manufacturers have been complaining to Washington about the prices at which Japanese manufacturers are able to sell microchips in the United States, which are substantially lower than those at which it is possible to manufacture them domestically. The point has now been reached at which the complainants' case has been declared superficially substantial; until the complaint is formally investigated and adjudicated, those who import Japanese chips into the United States are being required to make matching deposits of money commensurate with the penalties they may eventually have to pay if Japanese manufacturers are held to be dumping their goods on the US market at unfairly low prices. Whatever the eventual decision, which could be much delayed, the immediate