

# nature

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### To Geneva yet again

REPRESENTATIVES of the United States, United Kingdom and Soviet Union are back in Geneva this week to resume talks on a comprehensive ban on nuclear testing. Regular readers of these columns could be excused for stifling a slight yawn on hearing this; for many years now it has seemed to us and to others that a ban was just around the corner. Each year we have been reliably advised that the odds were fifty-fifty on a treaty by Christmas, but those who believe that this implies ultimate success should ponder the message of the coin tossed in Tom Stoppard's play *Rosencrantz*—which came down 'heads' more than eighty times in a row.

At present the two superpowers operate a voluntary limit of 150 kilotons on underground tests, and they, along with most other countries, are prevented from firing above ground by the Partial Test-Ban Treaty of 1963. France and China, non-signatories of the treaty, used to test regularly in the atmosphere, but in recent years, they too have gone underground. Although only three countries are party to the present negotiations on a comprehensive treaty, it is hoped that if and when a document is produced it will prove widely acceptable, and even those seasoned non-signers, France and China, will be prepared to adhere to its spirit. It goes almost without saying that many nations under strong pressure not to venture into nuclear proliferation are very keen indeed for some evidence that the superpowers are putting a brake on their own weapons programmes, and a comprehensive test ban, although only a partial dampener on weapons development, has great symbolic importance.

What then holds up a treaty? The traditional reason for delay has been the inadequacy of systems for monitoring compliance, whether by seismic or other means. There has been considerable progress in these matters in the past ten years; further major improvements in the near future are, however, unlikely. Above certain yields the risk of detection and identification is now very high, but below these levels there is more and more scope for undetectable clandestine activity. No technical monitoring system can provide complete satisfaction. Fortunately this now seems to be widely understood; no interested party would now be at liberty suddenly to 'discover' inadequacies in the monitoring system and claim that negotiations had been conducted in ignorance of them.

A more recent obstacle to a treaty has been peaceful nuclear explosions. The almost complete loss of support for these in the United States, on economic and public-acceptability grounds, contrasts with enthusiasm within the Soviet Union, where more than forty such explo-

sions have been fired for a variety of purposes. But even in the Soviet Union the pace seems to have slackened off of late, and elsewhere no one—not even the Indians—now has much enthusiasm. The trouble with peaceful explosions is that there is absolutely no way of verifying that they do not also have a military purpose, and any attempt to exclude such explosions from a comprehensive test-ban would have to be viewed with the utmost suspicion.

Most recently, concern has been expressed in the United States about the effects that a test-ban would have on stockpile efficiency; it is claimed that in the absence of regular testing, devices cannot be trusted indefinitely. This is a controversial matter; not even all those associated with the weapons laboratories would have the same point of view. But there have already been calls for the ban not to be total, but to allow limited low-yield testing. If peaceful explosions could be a vehicle for weapon development, however, so too could ostensible stockpile testing.

So what will emerge from Geneva? It has to be acceptable to the US Senate which ratifies such international agreements, so it will probably err on the side of caution. The Soviet Union seems prepared to forego peaceful explosions, but only for a short period. A limited duration treaty would suit the United States fine, because it would sidestep the question of the future of the weapons laboratories. At a guess there will be a three year ban on the firing of any nuclear devices whatsoever. But do not be deceived; although the treaty will undoubtedly come up for renewal there must be the most serious doubts that it actually will be renewed. Between 1958 and 1961 there was a thirty-four month moratorium in testing but it did not lead to a permanent ban. From public pronouncements in the United States and from an apparent Soviet desire to push ahead on the peaceful uses front it seems clear that many have already made up their mind that the ban will merely be a temporary measure.

What purpose does a British presence serve at these talks? Undoubtedly it has a certain cosmetic value in dispelling the impression that the two superpowers are colluding, and probably there are technical matters where British representation injects a sensible new dimension. But Britain is so closely tied to the United States in nuclear affairs that it is most unlikely that a truly independent line could be taken. It is probable that the treaty which will emerge from Geneva will be a poor substitute for a truly comprehensive permanent ban; somewhere an independent powerful and respected voice should be saying this. □