

France and the nuclear illusion

Of all the damage that will be done by France's tests of nuclear weapons in the Pacific, the most serious is that it will complicate and perhaps undermine the negotiation of a comprehensive test-ban treaty.

AMONG modern democracies, France has an admirable record of consistency. Research programmes devised by one government are diligently followed by its successors for example. The same is true of French policy on nuclear weapons, which has hardly changed since General Gallois first spelled out, in the 1950s, the doctrine that countries such as France could defend themselves against powerful adversaries with relatively modest nuclear forces, provided they could inflict on the adversary damage commensurate with their own value as prizes of war. This is not the doctrine of deterrence in the classic Cold War sense, but an assertion that even modest nuclear powers are likely to enjoy greater immunity from attack than non-nuclear neighbours. From that has followed the *force de frappe* (based on Mirage aircraft) and now the missile submarines and air-launched cruise missiles whose warheads France hopes to test in the Pacific. Given the consistency of the record, President Jacques Chirac may be genuinely surprised at the fuss the testing programme has generated.

There are three components of the protests that should be clearly distinguished. First, there are environmental worries: an explosion may vent radioactivity to the atmosphere or, more seriously, the basalt core of the atoll in which the tests are planned may be so ruptured that radioactivity gets into the surrounding ocean. Almost certainly, the past few weeks will have ensured that those in charge take extra care, but it is also helpful that France has agreed that there should be a fact-finding visit by a group of experts representing the European Union (of which France is a member). If Chirac wished, as he should, to abate further fuss, he would agree that the testing programme should be held up until that group has had an opportunity to report. Nevertheless, the environmental hazard of the planned tests is probably as small as the French have been saying.

The second component of the recent fuss is less tangible but more important for France. In Australia, New Zealand and Japan, countries all committed to non-nuclear defence, there is deep resentment that the accidents of past colonialism should have given France the right to test weapons in the Pacific, which they are determined should live up to its name. France will come to regret the lasting damage done to its relationships with these countries. It is also understandable that people in France's own territories in the region have seen the past few weeks as an opportunity to protest at France's continued presence. The rough behaviour of *gendarmes* has exacerbated that problem, just as the

old-fashioned assertion of sovereign rights over the testing atoll has offended responsible governments in the region.

But the most serious complaint against French conduct is one that must also be levelled against China. Their behaviour will compromise the international resolve to sign a comprehensive test-ban treaty a year from now. Both countries have said that they will sign. France says that its tests are a necessary preliminary; China, as usual, has said nothing in public, but presumably is similarly motivated. The obvious difficulty is the precedent these testing programmes will provide for those whose adherence to the proposed treaty is necessary for its effectiveness, India and Pakistan for example. They can now argue that they, like China and France, should be allowed to perfect their technology before signing on the dotted line. Both countries have overlooked the chief purpose of the treaty, which is first to fossilize the technology of nuclear weapons and then to encourage its erosion.

This is a big responsibility for France to take on its shoulders, especially because the adversaries against which the nuclear programme was originally directed have recently become straw men. France has no better case than Britain for maintaining separate nuclear forces. France's offer to put its nuclear weapons at the service of its European partners is unlikely to be taken seriously until France can also suggest what purpose they could serve. But Chirac should set out to define in his own mind what the purpose would be; that way, he would discover that his nuclear ambitions are an expensive illusion, as are the British. □

Patenting nature now

The use of ingredients from the neem tree sharpens questions about patent laws.

FOR centuries, the neem tree (*Azadirachta Indica*), a tropical evergreen indigenous to the Indian subcontinent, has played a venerated role in the social life of the region. The chemical elements found in extracts from both the seeds and the bark of the tree have found a wide range of uses — from eliminating insecticides on farm crops to combating tooth decay — and their efficacy has been confirmed by numerous scientific studies, in both Indian and foreign laboratories. And the shade of the neem tree has frequently provided shelter for both formal and informal gatherings that