

affect the strategic relationship between the superpowers than the certainty, acknowledged for decades, that some tens of million would be put in hazard from radioactive fallout. The reasons of course are not technical but political. The SCOPE committee might have taken its courage in both hands and said that the two activities cannot be separated.

SCOPE seems to argue instead that it is for technical committees to stick to the production of technical reports and for others, called politicians, to interpret them. The obvious danger is that technical arguments and conclusions will be misinterpreted. Sometimes, they may even seem to be used mischievously. But how can that be done when the conclusion of a technical report is as factual as the statement that large-scale nuclear war may have consequences even more damaging than previously thought? The United States government is right to say that a democracy as open as it is itself, is more vulnerable than its adversaries to public fears of the results of present policies. Its claim on the sympathy even of its friends is however diminished as its own policy on arms control becomes to seem more like a means of keeping things the way they are. The chances are high that the SCOPE report will be used in ways like these to persuade governments to make concessions leading to action that may be unwise. SCOPE might have acknowledged that the danger exists.

What else might have been said? With the review conference of the Non-Proliferation Treaty coming to what seems (against the odds) to be an unexpectedly amicable end, but with several months of arms control negotiations, summit meetings and diplomatic troubles lying ahead, SCOPE might have acknowledged the subtlety of the problems facing governments. It is a sensible starting point to take 600 megatons as the assumed quantity of nuclear explosives likely to be used in a major nuclear war, but governments may also fight lesser wars, where one or two nuclear bombs may be used in anger before good sense gets the better of the combatants, and they stop. (That is where civil defence comes in.) And while countries that calculate that even nuclear war would leave them immune from direct attack, but which may find nuclear winter a novel threat, should be reminded that they have as much to lose from the general collapse of international order. That is a point that SCOPE does make.

What does this mean for research? The SCOPE report follows its predecessors in listing topics that call for urgent study. Many of these are problems that need more effort on other grounds in any case. Mesoscale processes in the atmosphere are a kind of missing link in climatology and meteorology. The effect of clouds (real clouds, not average cloudiness) on the insolation of the surface of the Earth is crucial to a proper understanding of the carbon dioxide problem, yet understanding is far from complete. These are problems that need most urgently to be taken up. The prospect that they may conspire to produce a nuclear winter after a nuclear war should be noted as yet another proof that nuclear wars are to be avoided, and such funds as there are for more research should be put where the scientific problems are. In a decade or so, SCOPE would probably be able to produce an even better document. The trouble is that the amplifiers of SCOPE's conclusions are already being tuned for action. When the United Nations secretariat wrote to *Nature* a few days ago requesting permission to reprint extracts from articles on nuclear winter, it became plain that its claims on others' copy-right were curiously one-sided. The UN document is due to be published next year. □

Bees in South-East Asia

The Wall Street Journal's attack on Professor M. Meselson's is unwarranted and unsubstantiated.

THE *Wall Street Journal*, widely acclaimed as one of the best newspapers in the world, seems to have a quirky streak that it should exorcise. Although the journal's title suggests a paper designed to bring comfort to those whose interests extend no further than that day's deal, in reality the journal is almost

always the first with the telling confession of the latest bank to have gone to the wall. More than that, the newspaper tells its readers perceptively of the best plays wherever they are put on in the United States, and it is perhaps most of all distinguished by its attempts, mostly successful, to account for economic trends by anecdotal accounts of human behaviour — often these days a painful interview with a farmer giving up the land — and the technical information (how may ECU to the dollar for example) is superb. The most obvious curiosity is that the thoroughly objective but adventurous body of the paper sandwiches each day two editorial pages whose temper is that of the unreconstructed conservative. This does not mean that the journal supports the present government of the United States: that is more often denounced for backsliding from some public position or election promise. President Reagan often comes through as a kind of "pinko". Curiously, for a newspaper so technically advanced that it can replicate itself at more places in the United States than any other, the *Wall Street Journal* pays very little attention to science, which might be thought to be its bread and butter for the long term.

Except occasionally. Two years ago, the journal startled its readers with a sensational series of articles spelling out the way in which the Soviet Union was supposed to be using biotechnology as a way of developing new kinds of biological warfare. The evil genius behind these schemes was supposed to be Academician Ovchinnikov, vice-president of the Soviet Academy of Sciences, who inconsistently more often gives the impression that his cup of happiness would be full if only he were to succeed Academician Aleksandrov as president. Luckily, largely because of the internal inconsistencies, nobody of much importance seems to have taken the biological warfare scare seriously. The author of the series of *Wall Street Journal* articles was one William Kucewicz, described as a member of the editorial board of the newspaper.

Mr Kucewicz last week burst out again, with an attack on Professor Matthew Meselson's claim that many of the reports of "yellow rain" in South-East Asia could be explained naturally as the excrement of bees. Meselson and some of his associates have found material such as this in South-East Asia, although not where the material is said to have been used malevolently, to damage people (see *Nature* 309, 205; 1985).

There is no obvious reason why people wishing to harm populations with mycotoxins derived from fungi should choose to distribute them in intimate association with pollen particles (which occur in some samples from the Vietnamese battlefields, and in Laos, where the accusations first surfaced). Meselson seems never to have claimed that the absence of mycotoxins in particles of yellow rain, whatever their origin, would be a proof that the Soviet Union could be defended from the charge of using the countries bordering Vietnam as a proving ground for new weapons.

Mr Kucewicz's attack on this position is curiously blunt. The "bee faeces" theory is discredited, he claims, on the basis of Meselson's confession (when asked) that there were no traces of mycotoxin in the samples of bee excrement recovered away from the Vietnam battle areas. What, of course, this discovery implies is one of the possibilities suggested a few years ago, that toxic yellow rain might be made from pollen that had been naturally contaminated, perhaps by fungal invasion. To claim that the absence of mycotoxins in yellow rain from one place proves that there are mycotoxins in yellow rain from another place, and that they must have got there by design, presumably Soviet, makes no sense that can easily be unravelled. The truth, of course, is that pollen, airborne or from the guts of bees, was never a plausible vehicle for a toxin. To confess that yellow rain all comes from bees would not in itself prove that toxins have never been used in South-East Asia. Other vehicles might have been used. What the bee theory does however do is to discredit the investigations on which allegations of the Soviet use of biological weapons have been based. The simplest solution would be for the State Department to publish the evidence on which the allegations are based. □