

minorities in the United States, but the Late Sensate—which is even more dislikable—is not yet upon us and may yet be avoided. All this may strike a clear bell with those who consider that contemporary social problems are all reducible to variations on the tale of what happened to Lot's wife, but it is impossibly schoolboyish as a description of the character of social change. Although they claim the support of "most philosophers of history" for their belief that signs of what they call Sensate in, say, art are also evidence of the emergence of Sensate tendencies elsewhere in society, their application of the principle is foolish. The truth is that there is no evidence to suggest that the evolution of societies is a linear process, that societies at any time can be described by a single adjective, or that the kinds of historical conditions of which the world already has experience are likely to exhaust the range of historical possibilities. In brief, Drs Kahn and Wiener, who let their imaginations run riot on science and technology, are curiously leaden when it comes to history. The kinds of futures which they foresee are almost entirely determined by recent political experience in the United States. That this should be so is not surprising, but it does mean that the book, huge though it is, is not so much a framework for speculation as a tightrope.

When it comes to suggesting what kinds of technical possibilities may be opened up in the three remaining decades of this century, Drs Kahn and Wiener are imaginative enough but lacking in judgment or at least the appearance of judgment. One of the most tangible parts of their book is a list—another list—"One hundred technical innovations very likely in the last third of the twentieth century". This is a brave enterprise but one which is largely meaningless. What, for example, is to be made of the item "new and useful plant and animal species" fairly high on the list, among the near certainties? It is natural to ask whether the authors are thinking of new varieties, such as the strains of wheat and rice which seem to have brought joy to farmers in India and Pakistan in recent months. If, however, they are really thinking of new species, it is surely their duty to be a little more explicit. Unfortunately a good deal of their list is ambiguous in the same way, somehow straddled between platitude and outrage. To be sure, on one reading, Drs Kahn and Wiener are merely following the fortune-tellers and hedging their bets, but the process diminishes their credibility. The real trouble, however, is that Drs Kahn and Wiener seem not to appreciate as clearly as they should the practical distinction between innovation and change. Even very recent history, however, shows clearly enough that even the important technical revolutions may be slow to have a practical effect. The speed with which atomic power stations will come into service is probably determined as closely by the availability of capital as by technical considerations. By the same test, the rate at which new devices such as lasers are likely to influence the pattern of telecommunications will be determined by the speed with which existing networks, already huge, can be extended and renewed. In other words, in technological

prophecy, the real interest is to know what will happen and not what might happen.

## Canadian Science Policy

Is Canada a developing country? Dr O. M. Solandt, Chairman of the Science Council of Canada, thinks it is. When he gave the third Science of Science Foundation Lecture at the Royal Institution on April 23, he suggested that Canada's experience was an unusual combination, sharing the characteristics of highly developed economies and the large under-exploited regions more typical of underdeveloped countries. For this reason, he was hopeful that Canada's experience in trying to put science to work would be valuable both to the mature nations of Europe and to the developing nations of Asia and Africa.

Most nations, Dr Solandt said, have neither explicit goals nor a mechanism for formulating them. Scientists had a duty to point this out, although it would be presumptuous for scientists to try to formulate the goals—science is by no means the only important activity in the nation. Those who were responsible for trying to recommend science policies would have to establish hypothetical goals as a basis for policy. One of Canada's aims, he implied, was that of shifting expenditure away from the government laboratories, and towards universities and industry instead. This process had now been going on for some years and was of considerable importance.

He explained that the Canadian Science Council, the body charged with advising the Government on science policy, had no operating or budget responsibilities to interfere with its objectivity. One of its recommendations had been that a Canadian Space Agency should be set up to co-ordinate and plan Canadian space programmes. Unfortunately, it had proved impossible to implement the recommendation, because there was no effective body in the Government to convert the policy recommendation into action. Each of the agencies concerned with space activities already had its own vested interests. In the event, Dr Solandt said, an *ad hoc* group in the cabinet secretariat had been set up to deal with the problem. As a more permanent solution to these problems, Dr Solandt suggested the formation of a Ministry of Science with no responsibility for operations, which could deal both with the formation of policy and its conversion into reality.

## Jaguar Unveiled

On April 17 the strike/trainer aircraft Jaguar was rolled out from the Breguet works in Velizy-Villacoublay. After the dismal experiences of the past few years, when cancellations have come thick and fast, it is very hard to see how the Anglo-French Jaguar has survived. But it has, and now seems set to go into production, with orders for 200 from the Royal Air Force and a similar number from the French Air Force. No doubt the comparatively modest cost of the aircraft (although each will cost £620,000, the F111 would have been four times as much), the hope of export orders, and the fact that it is a collaborative project have all helped to keep the Jaguar in business. But these are hardly compelling strategic arguments. Without the F111 or the Anglo-French variable geometry aircraft (both cancelled by the British