

Introspection in Canada

THE fourth annual report of the Science Council of Canada should help to encourage the introspection and redefining of goals which are now going on in Canada's scientific community. In keeping with the many reports which have been published by the council during its four year lifetime, the report of its activities during the year ending March 31, 1970, is a closely argued plea for a more rational approach to the use of Canada's scientific and technological resources, and the report also points out some of the difficulties of living next to the United States.

The Science Council's fourth year was dominated by federal austerity, from which science and technology did not escape entirely unscathed. Dr O. M. Solandt, the council's chairman, points out, however, that the government was willing to listen to the arguments against cutting back on research expenditure, and made exceptions to its policy of financial restriction in some important areas, for example, the study of water resources and pollution.

The central theme of the report is that economic growth should not be the sole yardstick by which a country's progress should be judged, and that science and technology should not be slaves to a rapidly growing gross national product. Dr Solandt suggests that there is a crucial need for Canada to find reliable indicators other than GNP which will provide a better measure of the country's progress towards achieving national goals. Only when such a yardstick can be found can a set of criteria be drawn up for judging the possible benefits of a new technology. There is also, of course, the evergreen problem of defining national goals.

Part of the process of gearing science and technology to social improvement is the use of the currently fashionable technique of technology assessment, and



O. M. Solandt, Chairman, Science Council of Canada.

Dr Solandt argues that social scientists have a very great part to play in helping to weigh the costs and benefits of new technology. Only if a reliable mechanism for studying the likely long-term implications of a new project can be worked out will it be possible to guard against the misapplication of technology, he argues, and such a mechanism implies an effective teamwork between natural scientists, social scientists and engineers.

In Dr Solandt's view, living next door to the United States can be both a rewarding and a harrowing experience. He points out that the fortunes of Canada are becoming increasingly intertwined with those of the United States, and that Canada tends to import some of the United States' problems into its own cities and universities. There is still time, however, for Canada to take action before it finds itself confronted with some of the problems being faced south of the 49th parallel. One such problem is that the close links between science and the military-industrial complex have resulted in a real antagonism towards science, and this, Dr Solandt argues should be good reason for Canada not to develop an identifiable military-industrial complex of her own.

The chief effect of the proximity of the United States is the comparative ease with which American companies can penetrate Canadian markets and the ease with which Canada finds itself following American policies. "If Canada began to show more independence both in policy and action, as it is now doing in the matter of pollution in Arctic waters," Dr Solandt suggests, "far from causing strained relations between the two countries, in the long run it probably would increase US respect for Canada and Canadians."

As far as immediate problems are concerned, the report suggests that Canada's use of science and technology for development of the Arctic lacks coherence and organization, and that there is an obvious need to define goals for the area and then to mobilize scientific and technological resources to achieve them. There is also the problem of poverty among the Arctic population and the threat of pollution of the Arctic environment. In Canada's cities, the report suggests that there is an urgent need for special aspects of urban research, including transportation. Pollution also gets considerable attention in the report, but unfortunately the only real suggestion given is that more talent and money should be invested in the programme to clean up the rivers and the air.

Finally, Dr Solandt points out that the "major programmes" which were advocated in an earlier report of the Science Council have been very slow in developing. He suggests, however, that some of the blame for this can be laid at the Science Council's own door, because it has been slow to define suitable areas for such programmes, but the declining growth rate of public expenditure on science and technology has also played its part. One programme which has, however, made good progress is Canada's nuclear industry, although there still seems to be some difficulty in involving industry, especially in the design work.