

New technologies

Turning to developments in other areas of technology, it strikes me that what we will continue to experience is more the shock of the cumulative application of the new technologies, rather than the impact of one or another major breakthrough. The application of silicon-chip microcomputers to ever-widening areas of life is a prime example.

The shock of cumulative application also applies to the emergence of new linkages between existing technologies. The union of computers and telecommunications produced telematics, and I can give you an example of the shock of telematics on my own Department of External Affairs. In 1961 the number of telegrams moving through our diplomatic communications system each day was about 2 700. Today the number is close to 19 000. This is a sevenfold increase in 20 years, and no other activity associated with this department has grown by the same factor.

Another potential linkage, with undoubted impact on international affairs, has been created in the biotechnologies. This new science uses microbes as tiny employees to produce protein, medicine, livestock fodder, and plastics. Biotechnology has applications in agriculture, forestry and mining. The transfer of biotechnology to developing countries could have an enormous economic impact.

Technology, however, is not a neutral element. In terms of international relations, we are frequently confronted by its destabilizing force: the increasing sophistication of conventional arms, and their widening availability; violence in the reaction of traditional societies to the stress of technological change; ambiguity in the transfer and distribution of industrial technology — a transfer which may be right in itself, but whose results may promote competition, rivalry, and economic dislocation; the denial of technology used as an instrument of leverage in East-West relations. All these must be digested by the global system, and by our own policy culture.

But these are other choices which may lie ahead. The work of Dr. Gerald Barney and associates, on the implications for Canada of his *Global 2000 Report*, considered trends in population, natural resources, and the environment. Their assessment is remarkably positive in many ways.

Outside pressures

But Barney and company do spot one trend which could have considerable impact on our policy culture, could pose very difficult choices and could even bring about significant revision in the way we relate to the rest of the world. This is the forecast of increasing pressure upon Canada, from the rest of the world, for ever greater supplies of resources such as food, energy, forest products and minerals. Such pressure will place increasing stress upon our land, air and water resources.

Canada, as a relatively secure country in a relatively insecure world, could become even more envied. The perception of us held by others could be much less benign than it is today. Pressure upon us to share our space and territory with a much larger population could also be expected.