

and self-perpetuating. There is often a marked reluctance to terminate such programs, even when they are of little priority, as long as the least justification can be found.²⁶

Reliance on individual agencies to determine government science activities can thus lead to an undue emphasis on basic and applied research at the expense of development work and to the continuation of R&D programs that have lost their significance. It is clear that the distribution of the Canadian government's science activities suffers in this way.

6. *Another weakness of isolated science policies is that they can unconsciously be in conflict, particularly in the sector of public support for industrial research.*

The government may provide direct incentives to promote this type of research through the Department of Industry, Trade and Commerce, for example, and at the same time discourage it with the patent and monopoly policies of the Department of Corporate and Consumer Affairs. The Department of Energy, Mines and Resources may allow the use of NTA in detergents as a substitute for phosphates in order to fight water pollution, but the Department of National Health and Welfare may find that NTA is a menace to human health while phosphates are not. The Department of Agriculture may spend large sums to maintain the market for natural milk while the Department of Fisheries and Forestry is carrying out a research program to produce artificial milk. Such inconsistencies may be inevitable but they should at least be conscious and explicitly recognized, and that cannot happen easily under a system of isolated policies.

THE ROLE OF AN OVERALL SCIENCE POLICY

It should be obvious by now that a government cannot rely exclusively on a system of micropolicies to determine its science activities any more than it can to organize its fiscal action. This system has inherent weaknesses and potential deficiencies and alone cannot guarantee an optimum level and distribution of government science activities. These limitations are now generally recognized in the Western world. Dr. Christopher Freeman, the director of the Science Policy Unit at the University of Sussex and one of the best British experts on the subject, writes:

Nor can science policy be reduced to the level of a residual of all other policies—economic policy, military policy, health policy and so forth. It requires independent consideration in its own right, because the available resources are limited and the parts of the whole system are interdependent.²⁷