

would be composed of three institutes, one each for the physical sciences, the life sciences, and the social sciences. A substantial portion of the academy's activities would be in contractual research for other government agencies or industry. The institutes would also be expected to contract out some of their work to universities.

This integration of government intramural basic research would strengthen the quality of the work, facilitate a multi-disciplinary effort, and enable other government agencies to concentrate their R&D activities on the more practical side of their missions. On the other hand, it would be difficult for the academy to become an ivory tower. Through frequent exchanges of staff and contractual arrangements, it would have to maintain close liaison with universities, industry, and other government establishments.

We consider basic research a noble activity and feel that pure scientists should work in an atmosphere of complete freedom. Our insistence on the criterion of excellence would probably mean that fewer of them would be supported by public funds but those who did qualify for grants would be more generously supported and less closely supervised.

The Committee has devoted three chapters to industrial R&D leading to technological innovation in the private sector. We have detected a great weakness in this area, which explains the fact that the Canadian economy has never been highly innovative. We believe that the old policy of high tariff protection should not be restored and that the national strategy followed since the beginning of the present century, which relies mainly on the rapid exploitation of natural resources and on exports of primary products, is increasingly unwise in the context of current and future world supplies and requirements. Moreover Canadian long-term economic growth cannot be based on services as prime movers, although the complementary investment and employment generated in this sector by expansion in manufacturing is great.

The Committee has come to the conclusion, on the basis of the intensified international technological race and emerging world trade patterns, that in this decade Canada's growth strategy must rely mainly on a high and sustained flow of technological innovations introduced by the secondary manufacturing sector of the economy. This is a new and formidable challenge, which we have described as the Canadian innovation operation. It will not succeed unless it becomes a major national objective involving the active participation of all Canadians. It will require fundamental changes in our national life and our traditional outlook and attitudes.

As it stands now the Canadian private environment is rather un conducive to industrial innovations. To make it favourable, the secondary manufacturing