

marginal importance to individual agencies. Thus gaps tend to develop as government-wide research problems are neglected.

It may also happen that a research program has a high priority for a particular agency and a low one for the government as a whole. For instance, it might have been quite important for the Department of National Defence to develop the Arrow, for the Department of Energy, Mines and Resources to have a telescope in British Columbia, or for AECL to build an intense neutron generator, but it was found that the programs did not have the same high priorities for the government as a whole. But there are certainly less spectacular projects of this kind that go ahead unnoticed. To that extent, certain research sectors are over-expanded. It is clear that government's overall research priorities do not always coincide with those of individual agencies.

This limitation was emphasized by a number of witnesses who appeared before the Committee. But it is not specific to the Canadian scene. This point was also underlined in the 1967 annual report of the Federal Council for Science and Technology in the United States:

For example, an emerging social or economic problem that does not fit within the mission of an existing organization is likely to receive inadequate attention, if so much reliance is placed upon the existing bureaucratic apparatus. Similarly, new opportunities offered by science and technology are not likely to be aggressively exploited if no single Federal agency has a clear and exclusive responsibility. Finally, questions relating to the appropriate total investment in science and technology, and to the effects of the total Federal investment on such important sectors as academic science cannot be adequately considered agency by agency.<sup>21</sup>

3. *Research organizations, when they are autonomous, are like other agencies in seeking to accomplish their missions completely by themselves.*

This natural inclination toward self-sufficiency leads to a relative over-expansion of the government research sector compared with other sectors of performance. When government agencies have to decide whether their research programs will be carried out in their own establishments or assigned to industry, for instance, they are normally inclined to prefer their own laboratories. They view their support of extra-mural science activities as marginal and residual, although in fact such support, through contractual arrangements, could produce more beneficial results in terms of application and could at the same time reduce the need for government incentives and grants for industrial research. There is an inherent conflict of interest here for government research agencies which, in the absence of a general science