

prerequisites of acceptable national security, or of better health care, or of efficient transportation, or of safer airways, or of getting the mail delivered, or of the control of crime and violence, or of the enrichment of education and learning, and if these are the central concerns of our society, then science and its advocates must learn to shape research and development accordingly and give it relevance in these terms.<sup>7</sup>

This plea for relevance is an ideal very different from the pursuit of utilitarian objectives that some scientists fear in what they regard as the threat of government control. It touches on the purpose of our lives. It is a plea for humanism. As Sir Eric Richardson, director of education of London's Regent Street Polytechnic, said:

Science without humanity is void, Humanity without science is blind.

#### THE REPUBLIC OF MANAGEMENT

There is a second school of thought that denies the need for an overall science policy. Indeed it claims that such a policy is meaningless and useless. It can be described as the Republic of Management. It contends that R&D activities are useful to solve economic and social problems but that they should be determined at the micro level, in the light of the particular missions of the various government departments and agencies, under the benevolent supervision of the Treasury Board.

What is needed, according to the advocates of the Republic of Management, is a series of specific science policies in such fields as health, agriculture, and transportation, not an overall science policy. And these specific policies should be formulated and implemented by those directly responsible for the missions. This presents yet another mechanism of "independent self-co-ordinated initiatives," as in the Republic of Science, except that the power to decide and to initiate has been transferred from supply of research services to demand from the myriad of scientists to the myriad of specialized public administrators.

There is another important difference. In the Republic of Science, science activities are treated as an independent, integrated, and self-sustaining system organized from within. In the Republic of Management, they are considered as a set of isolated and separated sub-systems regulated from outside by the requirements of economic, social, or cultural missions. Dr. Richard R. Nelson, formerly of the Rand Corporation, is one of the better known representatives of that school of thought. When he appeared