remarks I shall be pleased to answer any question he has to put. It will be evident that these measures are not short-term handouts; rather, they represent important components of a broader, longer run strategy designed to foster development of Canadian manufacturing industry.

One of the important elements in any industrial development program is, of course, the creation of a climate appropriate to innovation and technological advance. During the last few months several reports, such as the report of the Science Council on "Innovation in a Cold Climate: The Dilemma of Canadian Manufacturing Industry", the study sponsored by the Science Council dealing with multinational corporations and direct investment, and volume 2 of the special Senate committee report on science, have all focused on the innovative process in Canadian industry.

Many of the concerns expressed in those reports can perhaps be best summarized in the following way: "To lose the power to innovate in a changing environment is to yield control of the future to those who retain that power."

As Minister of State for Science and Technology, I have been particularly concerned with the whole question of industrial research and development, but particularly with the development end of the spectrum, the innovative process itself. Innovation is that research and development activity that is oriented toward the market need. It is the essential activity underlying all the successful new products, processes, systems and services. It is concerned with what will fill a need, what will sell. It is concerned with the ultimate test, the test of the market place itself.

Industrial R and D in Canada is not as great nor as well supported or productive as I should like it to be. Expenditures by Canadian industry on its own account, for instance, are low alongside those of other nations. One has only to take a brief look at some of the leading industrialized nations, such as the United States, the United Kingdom, Germany, France and Japan, to see that Canadian industry's expenditures on its own account rate lowest when related to a percentage of the gross national product. For example, United States industry spends 1.15 per cent of the GNP on its own account, the United Kingdom 0.96 per cent, France 0.65 per cent, Germany 1.1 per cent, and Canada 0.41 per cent. I am quoting the 1969 figures which are the most recently available.

Another way of looking at this is to say that last year Canadian industry invested—I think that is the proper word—on its own account something over $300 million in research and development. Japanese industry during the same period increased its expenditures on industrial research and development by $600 million. In other words, the increase in industriaal R and D expenditures in Japan was nearly twice the Canadian R and D expenditures financed by Canadian industry. As far as the Japanese experience is concerned, just as important as size of expenditure is how it is spent. For the most part they emphasize the innovative end of the research and development elements. Why do they do so, Mr. Speaker? They do so because it is profitable for them to do so, because it is in their interest to do so, and because in their judgment their future growth depended upon it.

New technology or improvement in existing technology, as the background papers tabled by my colleague the Minister of National Revenue indicate, is the largest single factor in economic growth. What do I mean by new technology or improvement in existing technology? Simply this: new products to fill an existing or new market need, or a process which will improve the quality of existing products, or a new invention or better way of producing a product at lower cost.

Total expenditures on R and D by themselves do not tell the story. As I have already indicated, the kind of R and D is important. The pay-off comes with R and D which is directed at the marketplace and with R and D which is directed by the entrepreneur, for innovation is more than just imaginative engineering and market research. The distinguishing characteristics of an entrepreneur are that he anticipates, he looks for the opportunity and then goes on to make it a reality. He does not wait for someone to present him with the opportunity. He is an activist. He is, above all, future-oriented; and he is an optimist—much the same qualities as I am sure you will recognize, Mr. Speaker, in the members of this side of the House.

The entrepreneur is an innovator with a sense of proprietary interest. This sense of proprietary interest is to be found in some, but not all, Canadian subsidiaries of foreign corporations. It flourishes in those which have specialized and have developed a distinctive competence around a particular product, process or system. It is the same sense of proprietary interest that is likely to be eliminated by foreign takeovers, and once lost is likely to be gone forever. I think it is worth mentioning at this point that entrepreneurship and proprietary interest, if they mean anything, mean the ability to take decisions about your own future, your own growth, your own style, your own directions, to plan your own development and your own specialization—in a word, to build your own distinctive competence.

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I am emphasizing the entrepreneurship function and innovation because I think they are central to the development of competitive Canadian industries. The entrepreneur finds his excitement in the future. He is not backward-looking or inward-looking; he is outward-looking and future-oriented. And this is an outward-looking, future-oriented, forward-looking budget. That is why I think this budget is the right budget at this time. That is why I think the thrusts of the budget reinforce the initiatives of the government in trade policy, incentives and takeover policy.

Let us look at some of these measures for a moment. Industrial research and innovation are already encouraged under a series of plans provided by the Department of Industry, Trade and Commerce—I refer to the Industrial Research and Development Incentives Act, IRDIA; to the Program for Advanced Industrial Technology, PAIT; to IRAP, the Industrial Research Assistance Program, sponsored by the National Research Council—to establish a research capability in industry. I could refer to many other programs sponsored by the Department of Industry, Trade and Commerce, introduced, extended and approved by my colleague the Minister of Industry, Trade and Commerce, including DIRP, the