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TOWARDS THE YEAR 2000:  
CANADA'S INDUSTRIAL POLICY

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Most people are, I believe, rather fascinated by the idea of trying to look into the future, and the theme of this conference, "Towards the Year 2000", strikes me as a very interesting one. I have been asked to speak about the kind of industrial policy that Canada should develop over the next quarter century, which I look upon as a period of immense challenge and opportunity -- as well, no doubt, as many problems. In attempting to suggest what our industrial policy in the future should be, I will seek to assess certain trends in our own economy and society, to see what changes are occurring in Canadians' views of what they want from their industrial sector, and I will also try to gauge the likely evolution of events in the wider world, in so far as they have implications for the policies of individual nations, like this one, over the years to come.

It is my contention that, like most of mankind most of the time, we in Canada are basing our strategy for the future on an assumption that events henceforward will unfold much as they have in the past. We also tend to operate on an inherited (and very vague) conception of our fundamental national goals. Thus it is that we have a constant propensity to commit the habitual error of most long-range planners -- preparing to fight the last war. In my opinion, if we are to succeed as an advanced economic power in the complex international economy that is now emerging, we are going to have to shape an industrial policy that is suitable for the winning of new battles. What will be the differences between this revised policy and the old one? To answer this question, I think we should start by glancing back in time for a moment.

### Our Traditional Policy

For the past hundred years -- ever since the introduction of the famous "National Policy" of 1879 -- it has been part of Canada's design for development that we wanted to build an extensive secondary industrial sector. The purposes of this policy have been several. First, manufacturing industries employ manpower, and we wished to enlarge our population (through natural increase and immigration) so as to be better able to resist the great power and influence of the United States. Second, the reliance of the Eastern and Western Provinces on manufactures produced in Central Canada, which in turn looked to the Atlantic Provinces and the West for primary output, helped to link the country together along an east-west axis and thus strengthened national unity. And third, the development of secondary industry contributed to urbanization and (so it was felt) modernization, which seemed important to Canada's self-confidence and its position in the world.

Today, I would suggest, most of the factors that gave rise to this rationale have largely changed, and we need to consider whether there is some other basis for our industrial evolution more suitable for the 21st century. Let us look at the situation as it now is.

Although manufacturing is still an important employer of manpower in Canada, by this time 60 per cent of all our workers -- white collar and blue, male and female, executive and wage earning -- are engaged in the service industries,



and it is this sector that is gradually accounting for a larger and larger share of total employment, while the relative size of the manufacturing sector is shrinking. Moreover, it is no longer clear that growth of jobs to provide for an increasing population should be a primary Canadian preoccupation. Our pace of natural increase is slowing down sharply, due to the declining birth rate, and immigration is not as high as it has been at many times in the past. On the basis of present projections, by the end of this century the contemporary problem of unemployment will probably have given way to a severe shortage of labour. This is an economic and social development of major importance that very few people seem to recognize.

With respect to the relevance of a Canadian manufacturing capacity for national unity (by virtue of the complementary traffic created between an industrialized Central Canada and a primary producing East and West) the picture today is less clear than it used to be. The east-west linkage that once depended so heavily on the railway, for which merchandise freight was the principal *raison d'être*, has now been augmented by highway, airline, and communications ties that are in large measure less directly related to goods traffic than to other kinds of exchanges. The radio and television networks, the transcontinental telephone links, and so on have helped to create flows of information that have an integrative effect. All these mechanisms, and the extensive institutional and cultural interconnections to which they have given rise, today form an independent system supplementing and reinforcing the two-way

flow of goods based on regional economic specialization, to the point that the actual physical cohesion of the country is no longer in doubt.

One must recognize that the national unity problem remains, despite these developments. However, its focus today is (as it has often been in the past also) more purely political in nature. Quebec is afraid that the rest of the country will not permit it to satisfy its linguistic and cultural aspirations; the Western Provinces distrust the undue power that they feel is held by the industrial and financial moguls of Toronto and Montreal and the political establishment of Ottawa; the Maritimes and Newfoundland are perpetually disgruntled with their lot in Confederation, which they are convinced has led to their being condemned to a position of permanent poor relation to the other provinces. In this context one might almost say that industrialization has in recent years tended to jeopardize national unity, since manufacturing activity, which has always been concentrated in the Central Provinces, has in the past thirty years above all favoured Ontario, the one province whose wealth and importance has made it the common source of resentments felt in all other parts of the country. The contemporary goals of Atlantic Canada, of Quebec, and of the West are closely related (rightly or wrongly) to their desire for a larger share of the secondary industrial pie. Their continuing tendency to lose out in this respect, as compared to Ontario, is viewed as a major difficulty.

Finally, the goal of urbanization is no longer uncritically accepted. Essential in earlier times as a means of assuring high-quality public services and still necessary today for the stimulation of exchange and creativity, urbanization has in many countries exceeded its objectives, so to speak, and led to an undue concentration of population in one or two immense agglomerations. Rather than seeing the development of urban centres capable of autonomy, able to establish relations of interdependence and competition with other cities of comparable size, we are instead helping to establish urban structures of domination and dependence. This is no doubt a natural phenomenon. A dynamic centre attracts dynamism; a centre already weak becomes weaker. However, it is perhaps not inevitable. Certainly urbanization, as such, no longer has need of the support of public policy, and one no longer seeks the kinds of industrial policies whose overall result will be to accentuate the concentration of population. On the contrary, governments are engaged in a process of decentralization from the vast "megapolitan" regions toward less developed areas of their territories. To achieve this, a different sort of urbanization must be attempted, which reinforces regional urban centres of secondary importance, such as in Canada are represented by Vancouver, Halifax, Winnipeg, or Quebec.

In addition, shortages of fuels, foodstuffs, and industrial raw materials are providing a new advantage to the primary countries, whose futures appear much brighter than those that are heavily dependent on imported supplies of these things. Thus, the traditional idea



that a national role of "hewer of wood and drawer of water" is somehow demeaning is tending to change, and efficient production of agricultural commodities and basic raw materials is coming to be seen as a source of economic strength rather than a symptom of backwardness and underdevelopment.

### The Changing World Context

There are other difficulties with the notion that the main purpose of a national development strategy in a country such as Canada should be broadly based industrialization, covering the fullest range of manufacturing activities possible. We are a relatively small economic power, for one thing, and the world's advanced industrial countries are today almost all grouped into huge customs unions that give them immense economies of scale compared with countries not so organized. The customs unions (or, as they are more popularly known, "common markets") of which I speak are in some cases single nations of very large internal economic scale -- the United States, Japan, the Soviet Union. In other cases they are trading blocs -- the European Community, most notably, but also the East European group of countries that forms an integrated economic system with the Soviet Union. In addition, among the more advanced of the developing countries, India, China, and Brazil are very large nations, and the other countries of Latin America are grouped into trading unions based on the Andean Pact and the Latin American Free Trade Area. Canada's economy, by comparison with these giants, is small-scale and in general high-cost, and manufacturing has been protected by a system of import barriers that has both reflected and perpetuated these difficulties.

Another problem is arising for us as a consequence of our high-cost economy, and that is increasing difficulty in competing with certain overseas producers, notably in the Far East, of labour-intensive goods involving relatively standard technology. I refer to all kinds of items, from shirts to flashlight batteries to toys, that are made in low-labour-cost countries such as Hong Kong, Taiwan, Korea, Singapore, and elsewhere. It is noteworthy that these are the types of goods that used to come from Japan, and indeed I can see no reason why the same sort of industrial evolution that has characterized Japanese experience in the past two decades should not also occur in these other territories. Moreover, a similar development may be expected to take place in other areas of the world, in nations that have a much greater potential for world production than have these rather small states. Already Mexico, Brazil, Iran, and other bigger countries are following the Southeast Asian lead and very rapidly expanding their exports of manufactured products. India is a fairly important exporter in absolute terms but has not begun to measure up to its full potential. One may imagine what will happen to international production and trade patterns when that huge country, as well as Indonesia, Bangladesh, Egypt, Nigeria, and similar nations, to say nothing of China, begin to gear up to really major industrial development for world markets. Producers in these areas will have labour costs the merest fraction of ours. Can we really expect to prosper if we isolate ourselves from such competition by further import protection, and if not how should we develop our economy for a more viable future?



With the prospect of greatly increased competition from big economic blocs on the one hand and large new low-labour-cost producers on the other, Canada needs to rethink its economic strategy for the future. It needs, moreover, to bear in mind the implications of my earlier points: that employment creation should not be the major objective of a policy for our manufacturing sector, since population growth in Canada will be slowing down and the service industries will absorb the greater part of the labour force henceforward; that the development of manufacturing industry as part of a scheme of national unity no longer makes much sense, as the relentless tendency for most of such industry to locate very heavily in Ontario is not contributing to the strengthening of confederation; and that the goals of industrialization and urbanization are being greatly modified today, as the economic and social costs of massive metropolitan concentration become apparent and government seeks to promote development in backward regions of the country.

#### A Need for Specialization

The principal inference that one should draw from this evidence is, I believe, that we should stop trying to do everything. That is to say, for our economy to be strong enough to survive in the kind of world I have indicated, we will have to specialize our production, concentrating mainly in fields of activity in which we have -- or might have if we increased our efficiency through appropriate policies -- a comparative advantage as compared with other countries.

This proposition has particular relevance for the manufacturing sector, which at the moment is characterized by the output of relatively small quantities of a wide variety of goods -- indeed, in many cases we produce virtually the whole range of products manufactured in the United States or other large countries, but on a much smaller scale and with much less specialized techniques.

In what areas, then, might we find an actual or potential Canadian comparative advantage? I do not think that it is possible to identify these areas very exactly, except with respect to the primary sector and certain spheres of industry that are rather closely related to Canadian primary activity, such as the extraction and further processing of minerals. This country's opportunities in such areas are plain, and I would expect that we will see a renewed emphasis on primary industry in the future, accompanied by accelerated development of the North and some growth of population in other regions outside our existing very large urban agglomerations. I think mining towns and agricultural centres will form the basis for new growth developments in Canada, and there will be some development of mineral and farm-products processing in relevant areas of the country.

Beyond that, it seems probable only that one would expect to find comparative advantage in a country like this mainly in undertakings where there is a substantial content of educated intelligence and skill. In common with the United States, the countries of Europe, and Japan, Canada has a well developed educational and training system that tends to give it

a skilled, resourceful labour force, and it is in activities that utilize this labour force most effectively that the inherent high costs of the Canadian situation are likely to be absorbed in really productive results. These are the enterprises that do not have the same need to rely on large internal markets, like the U.S. or EEC customs unions, as do most industries, since a differentiated product with special characteristics can often hurdle import barriers simply because the demand for it tends to transcend minor price considerations. By the same token, these are the pursuits that are least affected by competition from low-wage countries, since they are of a nature that cannot readily be emulated by less sophisticated economies.

Contrary to the "new conventional wisdom" on this subject, I am not speaking only of industrial activities that involve a rarified kind of technology. One could expect that this country would have a comparative advantage in some specialized fields of technology, certainly, as it seems already to have in such areas as advanced communications systems, short-takeoff-and-landing aircraft, and a number of other particular fields. But equally important are those spheres in which educated labour achieves its effectiveness through imaginative design of products, through superior management capability, through elaboration and application of administrative systems, organization of data processing, and so forth. A whole new world of "intellectual industries" is developing in which the needed skills are by no means limited to the type of scientific and technological capacities



we have been accustomed to. Even in the less esoteric fields, it is innovation in general, rather than technological innovation in particular, that appears likely to hold the key to success in the economy of the future.

Part of the reason that developed nations like Canada have a potential comparative advantage in "education-intensive" activities is, in fact, to be found in an interesting change that is occurring in the contemporary economic scene. The basis of industrial growth over the past two centuries has been the progressive abandonment of craft enterprises -- whether in agriculture, artisan manufacturing, or services -- for standardized output and highly systematized distribution and merchandising for a mass market. Today, however, the wheel seems to have turned full circle, as affluent consumers are more and more coming to demand distinctive goods and services tailored to their own particular tastes. In providing the world with its first low-priced automobiles, Henry Ford turned out thousands of identical vehicles, which the customer could have, as he put it, "in any colour he wants so long as it's black". Compare that situation with the present wide variety of auto models, each available in almost any colour one can imagine and with umpteen different kinds of optional equipment, so that the buyer normally orders his car in advance and it is built to his individual specifications.

This sort of custom manufacture is made possible by very elaborate and ingenious organizational arrangements and flexible engineering systems. In the clothing industry, where some suits are custom tailored but most dresses and shirts are bought ready-made, the secret is an extremely careful attention to design, styling,

and choice of materials, coupled with shrewd advertising to shape people's tastes. Any comparative advantage that the advanced economies have in the production of automobiles and clothing is derived from their skills in "the new craftmanship", whose importance is now sufficient to offset, for many consumers, the lower cost of standardized goods like Volkswagens and plain white cotton shirts.

There is very little in the way of complex technology, nowadays, in the making of a car or an article of clothing. But there is a lot of highly specialized skill involved in fabricating and marketing these things in the form so many people now want them. The same is true of all kinds of services, where the technological content is often minimal or non-existent but the need for educated intelligence in their presentation is fundamental to consumer acceptance.

#### The Post-Industrial Economy

The point I am trying to make is not, however, that we in Canada should ignore high-technology activities in our quest for more viable economic pursuits in years to come. Rather, it is that we should understand clearly what is happening in the world and shape our strategy accordingly, instead of simply seizing onto the latest fad and basing all our plans on it without pausing to consider its relevance for us. What is happening, in my opinion, is that industrial production in the conventional sense -- "bending metal, mixing chemicals, and fitting materials and components together" -- is occupying less and less of our attention in developed countries as we move into the "post-industrial era". Of course, this idea too is in danger of becoming a fad. But there is no

questioning the fact that, as economies evolve and people become more affluent, the production and consumption of goods in the normal sense gives way increasingly to other kinds of output, demand, and exchange. That is to say, the average Canadian today spends far more than his father did on such things as education, entertainment, health, travel, communication, and information. Moreover, even where the ultimate result of an economic activity is the production of a good, the complexity of the item concerned often means that whole industries are involved in intermediate processes where the output is essentially something intangible -- like a research concept, a piece of data, a design idea, or an advertising and marketing program.

If one puts this tendency together with the trend towards production of simpler manufactured goods in low-wage countries overseas, the prospect appears of a 21st century version of the international division of labour in which the less developed countries (in addition to their primary-products output) will engage mostly in standard manufacturing pursuits, as we now know them, while the secondary industrial activities of the advanced nations will be more and more of a post-industrial nature. That is to say, North America, Western Europe, and Japan will be concerned with such matters as the mobilization of research results from centres of advanced scientific enquiry, transmitting these findings to fabricating units abroad through a new form of export trade in knowledge -- via patents, licensing, technical assistance, and computer networks. Major enterprises in these countries will gather, evaluate, and respond to the data from worldwide corporate operations, providing the elaborate informational input upon which managerial decisionmaking



will be based. They will design systems for the most effective employment of resources -- physical, capital, and intellectual -- in the global economy, formulating the criteria that will guide the logistical strategies of multinational firms.

Needless to say, only a part of our activity will be in the post-industrial sphere, and only part of that will be so specifically involved in internationally oriented endeavour. However, this type of function will be important, and it and other factors suggest very strongly that we in Canada need to develop more of our own specialized multinational companies. It is clear that various influences have combined to ensure that much of our creative enterprise is satellite to foreign-based economic entities. We have now reached the stage at which increasing numbers of Canadian firms, sometimes associated with other institutions or with government, have developed an innovative capacity of their own. A very substantial effort will be required in the years ahead to broaden this base and ensure that more and more products flow abroad incorporating original Canadian technology, styling, and other "education-intensive" content.

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#### Choice of Policies

Over the next few years we are going to be much exercised over the choice of policies likely to encourage the areas of comparative strength in Canada. It should be noted that comparative advantage is a much less obvious economic factor than it used to be, in the sense that for many industrial products -- and perhaps even more for the post-industrial output

I have mentioned -- the comparative costs are difficult to establish. Which country is best placed to manufacture telecommunications equipment? What are the advantages of one location over another in the carrying out of data-processing functions? Increasingly industries are "footloose"; but there is a discernable tendency for them to gather in countries that are at the vanguard of economic development, in regions that are close to centres of higher education in relevant fields, with good communications to places where capital can be mobilized and where experts in specialties pertinent to the operations concerned are to be found, and so on. Some of these characteristics seem to be a matter of luck; others are a matter of policy -- and certainly there is a considerable momentum encouraging the continued clustering of these activities in the locations where, for one reason or another, they began to concentrate originally. However, it is evident that certain influences are important in the development of these modern industries, and we must seek to establish such influences here if we are to obtain the economic results we need.

One of the most significant requirements is an open-access market of sufficient size to create the basis for adequate scale and specialization in industrial operations. This is an old story which we do not have to repeat now. It is worth adding only that, while it is not so evident that large open-access markets are vital to post-industrial enterprise, up to now post-industrial capacity has tended to be related, directly or indirectly,

to a higher manufacturing performance, with the consequence that these two types of activity have usually taken root in the same countries as have been most successful industrially. And these countries are those with large internal or external markets giving them scope for maximum efficiency of production. Thus, while it may eventually be shown that post-industrial functions can develop on a sound basis away from the important centres of industrial dynamism, at the moment the familiar market-size considerations seem to apply in this area too.

For these reasons, the search for a more viable Canadian future continues to relate to commercial policy -- that is, international trade policy -- by which a relatively small economy can attempt to negotiate improved access to other markets and thus a way out of its scale-and-specialization constraints. No doubt Canada will look again at the possibilities for breaking fully into a large free-access area by means of substantial progress in dismantling trade barriers. The Economic Council is completing a major study of this issue, whose results I would not wish to anticipate. Let me say only that there are great potential economic benefits for Canada from free trade with important markets such as the United States, the European Community, Japan, and the new emerging industrial nations of the world. On the other hand, there are also great obstacles and possibly some political dangers and difficulties in the way of major trade liberalization. These problems are fraught with complexities which have to be very carefully unravelled in order that a successful move to significantly freer trade can be accomplished. We at the Council are attempting to do that, and it has proved



to be a very hard task. But I think the study will arouse considerable interest when it is finally published.

This being said, there exists one other dimension or problem which is perhaps even more fundamental still than trade or industrial specialization; it is the clear need to create centres of innovation, truly Canadian. If free trade makes possible the location of specialized activities here, involving the kind of utilization of educated labour that I have described, it would not of itself ensure that they were, in fact, located in Canada. Whatever happens on the trade front, it is highly likely that we will remain on the periphery of the North American economic subsystem unless we take action to develop certain basic capabilities, organized within autonomous institutional frameworks, to initiate our own technical and other innovations.

Quite apart from the evidence that we would not really gain the advantages of a freer trading world without this sort of competence, it is also apparent that such capacity would enable us to achieve many of our goals even in a world of continued trade barriers. The Canadian economy has now reached a sufficient size and importance that fully effective operations are possible within a wide range of pursuits on the basis of the home market alone. A large number of industrial undertakings are already becoming centres of international importance in their fields, thanks to a domestic market of 22 million relatively affluent people -- some 15 million of whom are concentrated in the southern Ontario/south-western Quebec population belt. The vital factor is that they be

structured to provide home-based "innovation poles" linked to, but not satellites of, similar growth centres in the rest of the world. And, needless to say, penetration of foreign markets would in turn be greatly assisted by the creation of such domestic innovative capability, regardless of the level of trade barriers abroad; so in many respects this need could be said to be as important as trade liberalization.

### Implications for Policy

To sum up the argument so far, I feel that the pattern of Canada's industrial development in the future will display the following characteristics. First, the primary sector will gain in significance, with more processing of many minerals occurring here and with agriculture emerging as an industry of great importance, very efficiently organized along the lines of any other contemporary field of business enterprise. At the same time, the manufacturing industries will become much more specialized, with many traditional secondary activities shrinking greatly or even disappearing and the emphasis turning to spheres in which education and skills will be most important. Finally, the service sector will expand steadily, especially with respect to employment, and it too will tend in many cases to stress the same "knowledge-intensive" features that have come to achieve significance in manufacturing.

These characteristics suggest a number of tasks for policymakers. Of these, the most substantial will be the fostering of centres of innovation in this country, not only as regards the development of new technology, strictly defined, but also as

concerns the application of educated intelligence and skill in a larger sense. We will have to add to our existing systems of incentive for industrial research and related technology, as well as to introduce a whole complex of new schemes to promote innovation in other areas. This requirement can be seen as an extension of the massive education programs we developed a few years ago. It was from the very great improvement of educational infrastructure, widening of university enrollment, and enrichment of post-graduate training that we obtained the highly skilled and knowledgeable work force that we now have. The natural corollary is that we proceed from this base to build an indigenous innovation capability so as to be able to apply this educational capital to advanced industrial and post-industrial applications. If we are successful in such measures, we should be able to evolve from our present rather fragmented and fragile secondary industrial sector a more tightly organized and highly efficient structure, more open to the rest of the world and much better able to cope with foreign competition. And the inherent strength of our primary sector, along with the increased importance of the service functions, will give us an economy more suited to our own contemporary national goals and to the imperatives of the present era.

Complementary to these measures and pursuant to the same objectives will be a really serious effort by Canada to secure improved access to foreign markets through major trade liberalization. The old arguments for free trade still apply, and they can be made much more plausible if we strive simultaneously to achieve improved economic viability through the sorts of arrangements I have just described. The point is that these



two themes should be mutually reinforcing, the opportunity for increased international competitiveness being created by a concentration on appropriate productive activities, as derived in large measure from independent Canadian innovations, and at the same time being given scope for full realization by the opening up of markets through trade liberalization. I see these two aspects of policy as essential elements in a general philosophy of Canadian development: we must have sufficient national autonomy, that is, a definite capacity to innovate, so that we can compete in the most completely open international economy that mankind is able to achieve.

#### The Role of Government

The reason for dealing with only general orientations such as those I have suggested, rather than proposing an industrial policy as such, are very simple. I feel that the share of government will already be quite considerable if we are to have a real capacity for innovation. I question the need constantly to widen the role of the state in the economy. While I readily recognize that governments must set down the rules of the game, I believe that the market forces must in the end determine which industries and which firms deserve to succeed, and which ones will never see the light of day. This will, in turn, require a regime of strong international competition at the level of these firms whose operations extend over the whole world.

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