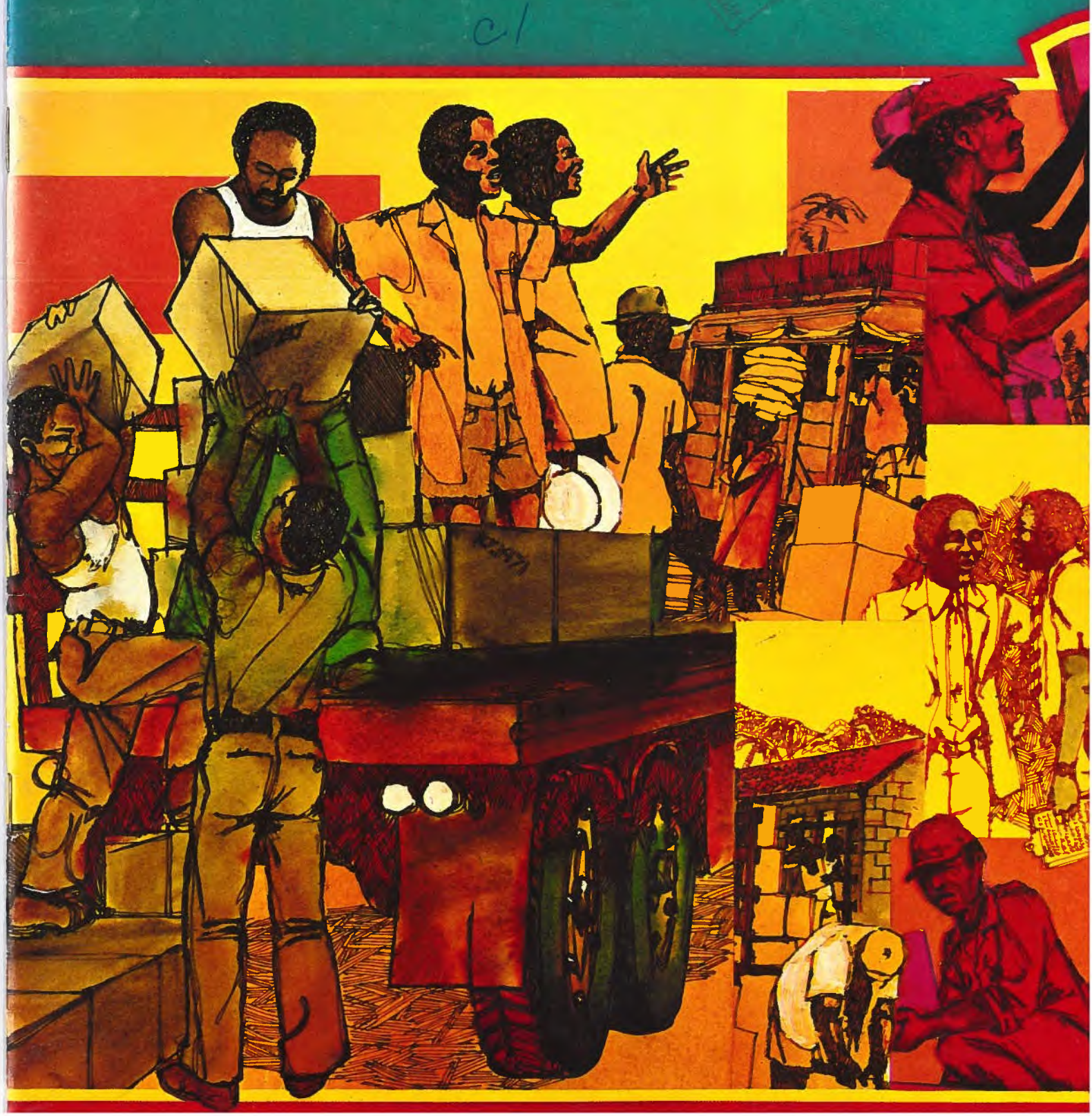
Canada Commerce

July 1974



Canada Offshore

Last May, 1,266 companies from around the world, including 17 from Canada, exhibited their wares at Houston, Texas. The occasion was the Offshore Technology Conference. The growth of the OTC is demonstrated by comparing this number with the number last year, when there were only 820 exhibitors. Official figures put the number of visitors to this trade-only show at more than 32,000, an increase of more than 10,000 over 1973.

Canada's expertise in offshore technology is achieving a growing international reputation and the Canadian stand at Houston was reported to be one of the most interesting among international exhibitors. This, no doubt, was at least partly responsible for the estimated half-million dollars of on-site sales that took place — offshore equipment is not usually sold on-site at trade shows. The potential, Canadian exhibitors also reported, was considered to be excellent.

If the Canadian stand receives the same interest, the Stavanger show in September in Norway should be equally beneficial to our offshore industry.

Canada Commerce

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In This Issue

Canadians, because of the size of their country, do not usually make the mistake that citizens of smaller countries often do: When you get to Africa (Canada, the U.S., Australia . . . .) do look up a friend of mine. Yet there is a tendency to divide Africa into two or three parts — South Africa, North Africa, and the rest. There is almost as much difference between parts of "the rest" as there is between Yukon and the southern U.S. States, and the differences between doing business in Nigeria and in Kenya are much greater than between British Columbia and Nova Scotia.

Our Commercial Division in Lagos writes that Nigeria, because of its revenues from oil, is a rich and expanding market, with an import bill last year of $1.8 billion. Although it is a price-competitive market, there are many opportunities there for Canadian products, and Canadian exporters should visit the country, get themselves an agent and help to reduce our unfavourable trade balance with Nigeria.

One of our fastest-growing export industries is the apparel industry. From a small start just over 10 years ago, the industry has boosted the value of its exports by about 860 per cent. A British newspaper, writing shortly after a trade show in that country, praises the Canadian industry for its versatility, high efficiency standards and design ability. Attention to detail — firmly sewn buttons and hems, for instance — has also played its part in this success story. But, as the report on page 20 points out, this should not be the end of the story, and the future looks as promising as the distant past looked bleak.

Next month we have a series of reports on the Japanese market that should make interesting reading. This country, after all, has become our second best customer after the United States.

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Industry, Trade and Commerce / Industrie et Commerce

Canada Commerce is published monthly by the Department of Industry, Trade and Commerce. Established 1904.

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Subscription

"Canada Commerce" is sent without charge to Canadian producers of goods or services. Others may have the magazine at $5 a year in Canada, $7 abroad. Single copies 60 cents each. Please forward all orders, with cheque or money order made out to the Receiver General of Canada, to "Canada Commerce", Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.

Publié aussi en français.

Nigeria –

Black Africa's largest market

Merchandise for Nigerian markets waits to be loaded onto "Mammy Wagons" in a Lagos truck park.

D. D. H. WRIGHT, Commercial Secretary, Lagos

Nigeria's rapid oil-based growth will take another leap forward in 1974 as a result of substantially increased oil revenues. It is estimated that these revenues in 1974 could approach $7 billion, although General Gowan in his budget speech of April 1 placed oil revenues conservatively at $4.5 billion. Oil, therefore, will take a firmer hold on its position as Nigeria's largest single earner of foreign exchange. Oil revenues accounted for more than 80 per cent of the total value of exports and federal revenues in 1973. As a result, oil has become the pivotal point upon which all economic policies, growth strategy and development are based.

The 1974/75 Federal Budget has been called the "Oil Budget." Briefly, it calls for $4.9 billion total expenditure, of which $1.3 billion is current expenditure and $2.6 billion capital expenditure. This is based on revenues of $4.7 billion. It is interesting to note that all but $99 million of the projected capital expenditure will be found internally.

The budget seems to have focused on three main problems: (1) it uses oil wealth to revitalize the sagging agricultural sector, which employs more than 70 per cent of the labour force and is viewed as the mainstay of the economy for the long term; (2) it continues the provision of the infrastructure required for future economic growth, i.e., roads, electricity, water, housing, free primary education and readily available higher education and health facilities; (3) it attempts to curtail domestic inflation.

Agriculture — Current expenditures in the agricultural sector will be $40 million, whereas capital expenditure for fiscal 1974/75 amount to $156 million. The State and Federal Governments will attack the problem of food shortage at the domestic level by undertaking large-scale development of water resources, through purchase of portable water-well drilling equipment, irrigation pumps and pipes; establishing grain storage systems throughout the country; undertaking large-scale agricultural production of leading food and export crops such as sugar, maize, rice and palm oil; expanding the National Accelerated Food Production Campaign which provides high yielding seeds, fertilizers and other agricultural inputs to small farmers at subsidized rates; expanding loans from the Nigerian Agricultural Bank for farmers to purchase tractors and implements.

The Government has abolished the produce sales tax and has increased producer prices on the major export commodities such as cocoa, rubber, groundnut and palm oil to encourage greater production and subsequent increased foreign earnings from agriculture exports, thus reducing marginally the dependence on oil.

Infrastructure — Expenditures for infrastructure development will centre mainly on construction of roads, houses, schools, electric generating facilities and hospitals. A total of $285 million of current expenditures and more than $1 billion in capital expenditures have been allocated. The greatest spending in the latter category will go to education ($318 million), housing ($300 million) and electricity ($291 million). Opportunities exist for low-cost housing systems, a wide range of building materials, education equipment and electric generating equipment and related transmission equipment.

Inflation — Inflation has been estimated at about 10 per cent annually and has been attributed both to the international monetary crisis with subsequent higher world prices of imported goods and the inability of local production to keep pace with demand for food and housing. The new budget is aimed at combating these rising costs by reducing tariffs on a wide variety of imported items such as building materials (cement, structural metal), food (maize, milk, fish, prepared vegetables), transport (vehicles) and consumer goods (radios and televisions). Local production costs have been cut by reducing the import duty on all raw materials used in manufacturing to a maximum 10 per cent ad valorem. Also, excise duties have been reduced to 5 per cent.

Opportunities — Imports in 1973 rose 24 per cent to $1.8 billion but exports grew 55 per cent as a result of high volume and prices of petroleum exports. Consequently, there was a substantial increase in the visible trade balance to $1.2 billion. However, a substantial deficit of close to $1 billion exists in the invisible or services account, primarily as a result of investment payments to oil companies.

Foreign reserves stood at $375 million at the end of 1973 and Nigeria is in an enviable, stable financial position, able to pay for all its imports.

An analysis of Nigeria's imports in 1973 indicated that, of the total, 36 per cent was manufactured goods, including semi-manufactured materials for further processing; 23 per cent was capital equipment; 15 per cent was transport equipment; 9 per cent was food and 5 per cent was road construction and mining equipment.

Traditionally, Canada has had an unfavourable balance of trade with Nigeria, due to substantial Canadian purchases of crude oil. Canada's main exports in 1973 were wheat, asbestos, locomotives, construction and road maintenance equipment, copper bars, aluminum ingots, and steel pipes and tubes. But the very dynamic growth under way in Nigeria presents a large number of opportunities for the aggressive Canadian exporter. Some of these include:

- Consulting engineering services — Excellent opportunities exist for Canadian consultants, particularly in the electrical, forestry, resource studies, water and sewerage, and agricultural sectors. Canadian consultants secured Nigerian business worth more than $3 million in 1973.
- Industrial equipment — Nigeria is industrializing rapidly, with the manufacturing sector growth rate approaching 11 per cent in 1973. There is substantial potential for further expansion and diversification and the Government has specific plans for several major ventures: a 750,000-ton iron and steel complex, three 60,000 ton/year pulp and paper mills, two petroleum refineries, a petrochemical

complex, two $1 billion LNG complexes, a nitrogenous fertilizer plant and several cement works.

Purchasing decisions on specialized industrial equipment almost invariably are made by the technical and management partner in a given venture, usually a foreign firm. Simpler industrial ventures, such as sawmilling, animal feed mills, abattoirs and food processing usually do not require foreign investment and the equipment is purchased direct.

- General purchase machinery and equipment — There is an excellent market for general purpose industrial and technical equipment, particularly agricultural, forestry, water supply and construction equipment, mostly because of the $12 million program loan being made to Nigeria by CIDA. In the light of the $107 million World Bank Education Program and the high priority put on education in the 1974/75 budget, excellent opportunities exist for Canadian education equipment suppliers. Other areas are hospital equipment, communications equipment and a wide variety of electrical hardware as a result of a $150 million a year expansion program being undertaken by the National Electric Power Authority.

The market is very price-competitive and places a high emphasis on proven reliability and adequate after-sales service and spare parts.

- Raw materials and chemicals — The modest growth of the manufacturing and processing industry has created an interesting market for raw materials. Again, price is the main factor, although a large proportion of the raw materials are bought through intra-company relationships. The major European chemical and fertilizer manufacturers are represented directly in the market and occupy a dominant position in it.
- Consumer goods and food — There is a good, though highly competitive, market for a wide range of consumer goods and food. Price is once again the main factor. Entrenched brand loyalty and established trade lines make penetration of this market difficult.
- Building materials — A $750 million urgent housing scheme is under way in Nigeria to build 59,000 units by 1976. Plans call for another 2.9 million units by 1990. The established construction method utilizes, almost exclusively, in-situ poured reinforced concrete and cement blocks. But because of the deadline set on part of the housing program, prefabricated systems imported in knocked down fashion and assembled on site will be looked at.

The local building materials industry is well established, but cannot cope with the excess demand. Pipes and plumbing equipment, sanitary wares, tiles and other material and equipment are required.

- Transportation and airport equipment — Transportation must expand rapidly to keep pace with the economy and consequently markets might be developed for STOL-type aircraft, hovercraft for mass water transportation, locomotives and railway cars, and marine engines and drives. With the establishment of two assembly plants by Volkswagen and Peugeot, markets will exist for OEM automotive parts, as well as replacement parts.
- Defence equipment — With the largest standing army in Africa, defence spending runs to $600 million a year, with capital acquisitions in excess of $100 million. Products of interest include patrol boats, communications equipment, military clothing and accessories, vehicles, transport aircraft, military electronics and training aids.□

Doing business in Nigeria

Nigeria is a lucrative but somewhat difficult market to penetrate. Competition from traditional suppliers developed during colonial times is strong, although there is a receptive attitude toward other suppliers of competitively priced, quality merchandise who are willing to commit themselves to a long-term marketing program.

Agents are not mandatory, but, invariably they are essential to the development of worthwhile sales. There are only a few qualified agents and they are heavily committed to a wide range of proven and known products. Often it is difficult to locate good distributors.

The best agents and distributors invest time and money in serious marketing efforts and therefore seek exclusive arrangements covering all of Nigeria. As of April 1, 1974, businesses in the distributive trade are either 10 per cent or 40 per cent Nigerian owned. The largest volume of imports is handled by foreign-controlled companies (40 per cent Nigerian). The newer and invariably much smaller Nigerian firms will require a greater investment in assistance to these agents.

Canadian businessmen are advised to contact the Canadian High Commission in Lagos prior to concluding sales with a Nigerian importer.

For initial orders, payment terms should be by letter of credit but because of restrictions on remittance of

foreign exchange from Nigeria, it is not possible usually for Nigerian importers or commercial banks to offer irrevocable letters of credit fully guaranteeing payment in foreign exchange whether in U.S. dollars, pounds sterling or Canadian dollars. Nigerian letters of credit are claused and, in effect, only guarantee payments in Nigerian naira. Final remittance of foreign exchange is at the discretion of the Nigerian Government through the Central Bank of Nigeria. But Nigeria has a sound foreign reserve position and remittances essentially are automatic. Payment is made at sight of shipping documents but, due to administrative delays, foreign exchange is usually remitted in two weeks. These new payment terms are effective from April 1, 1974 and are a substantial improvement over the previous 90-day payment arrangement.

A business trip to Nigeria, particularly the first one, should be planned well in advance in close cooperation with the Commercial Secretary in Lagos in order to make the visit as effective and successful as possible. The office in Lagos is prepared to make most arrangements for visiting businessmen, provided that sufficient notice is given, as well as full details of the purpose of the visit, contacts already established, detailed product information and exact arrival time. Assistance in arranging transport from the airport, hotel accommodation and scheduling appointments is given happily.

More detailed information on the Nigerian market is available in booklet form, *Markets for Canadian Exporters — Nigeria,* from the Department of Industry, Trade and Commerce, Pacific, Asia and Africa Bureau. □

Never Buy Anybody Lunch

DAVID MAGEE, Assistant Editor

Ed Maloney, an exuberant young man, makes ear plugs and sells them in Canada, the United States and Europe. According to him, he is doing quite well, all things considered, and is looking forward to the day when his company, Hear-Saver Limited, corners almost half the world market for its particular kind of ear plug. He claims he is close to that goal.

Mr. Maloney has been in the hearing protection business for more than four years now and he admits readily that his Toronto-based company, which has never employed more than about 20 people, has had its ups and downs. This, he says, is partly because of his seat-of-the-pants approach, especially to exporting.

"If you base your approach to exporting on the premise that you'll do it when you can afford to hire an expert to do your market survey and to get the basic data," he says, "then you'll never get anywhere."

Mr. Maloney says it must be realized that starting a successful exporting operation is a three-to-five year project, with many steps to be taken. For small companies, according to him, it is very much a trial-and-error process. But the number of errors can be kept to a minimum.

He advises small businesses to use the many resources, other than money, that are available at little or no cost to any company willing to go after them. He advocates taking advantage of the various types of assistance that may be had from the federal and provincial governments, even if it takes a bit of time to figure out the bureaucracies involved. And there are many sources of help within the private sector, he says.

One of the problems facing a small company, particularly if it is making a consumer product, is promotion. There is seldom enough budget available for extensive advertising and buyers for retail outlets are often reluctant to take a chance on a new, unknown product. This was true in Hear-Saver's case and early sales figures in retail outlets such as drug stores were not encouraging.

Ed Maloney in his Toronto office.

But the company had gained acceptance in industry. Several major mining and forestry companies bought large quantities of Hear-Saver earplugs for their employees and Mr. Maloney says these sales were a "tremendous help" in getting the company on its feet. And after four years, Hear-Saver products are available to consumers through the majority of drug stores.

However, the real stepping stone, according to him, was the assistance the company received from a number of trade magazine publishers. "Editors of sporting and industrial safety magazines and so on were really good to us," says Mr. Maloney; "they got inquiries from people setting up safety equipment distributorships and they passed them on to us." Directories published by these magazines have also been invaluable in locating sales prospects for Hear-Saver.

The first step into exporting for Hear-Saver was to find a well-established distributor in the massive United States market. Mr. Maloney had attended regularly a major annual safety trade show in Chicago and it was there that contact was made with two or three leading distributors. Within four months an agreement had been signed with one of them to produce earplugs for a private label. The earplugs were not being sold under the Hear-Saver name but, says Mr. Maloney, "I'd rather have my name on a bank account than out in the marketplace."

The distributing arrangements proved successful and, encouraged by the U.S. sales, Mr. Maloney decided to take Hear-Saver to Europe. By this time the company had improved its production techniques and expanded its line of items and "all of a sudden we had a little more to sell. . . we even had four pages to our catalogue."

Full of new confidence ("I had started looking beyond Mississauga or North Bay."), Mr. Maloney started asking Ontario Government trade officials what he could do about exports. Before long he was invited to participate in a sales mission to Milan, Italy.

During this time Mr. Maloney had also been talking to people in the Toronto Regional Office of the Federal Department of Industry, Trade and Commerce and had received considerable free publicity in the Department's international tabloid, *Canada Courier*. This had produced a number of inquiries from Europe.

Armed with his file of inquiries and an airline ticket from the Provincial Government, Mr. Maloney embarked on what he calls "a crazy jaunt," visiting 16 or 17 cities in 22 working days during February, 1973. He admits he made some embarrassing mistakes during his "jaunt" and he was exhausted when he came back to Canada. But he had surveyed the market and had established that there was sales potential.

It was during this first European trip that Mr. Maloney "really got into working with the Federal Trade Commissioner Service and found out how you can work with the Trade Commissioners as a team."

He says there are three things to remember in dealing with Trade Commissioners: they should be given as much information as possible about the product or products to assist them in researching market potential; they should be involved in every transaction as much as possible via copies of correspondence so that, when necessary, they can provide on-the-spot clarification of terminology and answer questions arising out of the correspondence; they should be consulted about local business customs.

One fact driven home to Mr. Maloney was that business in other countries is often conducted somewhat differently than in North America: "Canadians and Americans are so go-go, you know, always on the fly. But in many European countries they still have a tradition of stopping for tea at 3:30 and enjoying it. If it's a lovely day that may be reason enough to leave work early — just because it's a lovely day. I didn't appreciate this: that they have a different attitude to work — not to responsibility, but to the work ethic."

It was also during this first European trip that he began to appreciate fully the value of personal contact. He says: "They can read all the news releases and all the catalogues and see all the samples but until potential customers meet this guy Maloney, they really don't know if he's for real."

Mr. Maloney followed up the contacts he made in Europe and worked closely with the Department of Industry, Trade and Commerce during the next few months. Then, in September of the same year he took part in one of the Department's market identification missions in another trip to Europe. Half his costs were paid by the Department (*for more information on this contact the Department's Fairs and Missions Branch).*

Not as many countries were visited during the second trip but Mr. Maloney attended safety trade shows in England, Belgium, France, West Germany and Italy and results were more tangible than those of the first trip. In Paris, for example, a Spanish distributor agreed to take several thousand pairs of ear plugs for market testing. Distribution was also established with West German and French firms and contacts were made with British and Italian distributors.

Mr. Maloney picked up another sales trick while he was in Europe. Attending the various trade shows gave him the opportunity to see firsthand what his competitors were doing and who they were using as distributors. He reasoned that the European distributors handling ear protectors made by the big U.S. firms would be the best to handle his products and that they might be willing to take on another type, namely Hear-Saver, to complete their product lines. The approach worked.

"One German fellow placed a very sizeable order. He didn't talk much, he just wrote out a cheque and that was it," recalls Mr. Maloney. "What I found out was that instead of being envious of the much larger firms against which I was competing, I could follow in their footsteps and take advantage of their research and contacts."

For Mr. Maloney, the learning process continues. He concedes that he will likely make more mistakes as he expands Hear-Saver's horizons but over the past few years he has established some basic operating rules. Once he has made a mistake, he says, he tries to avoid making it again.

And there is something else. He believes that many companies are not as successful as they might be because their managers are guilty of fuzzy thinking on a salient factor in any business operation, that is, cost control. Too many companies put too much emphasis on frills, such as thick carpeting, big desks and indirect lighting. He says managers should ask themselves who they are trying to impress. In most cases, he contends, there is no need to impress anyone.

"If you think you need frills," he says, "then you've got your priorities mixed up. You have to keep your overhead low. All you really need is some good business equipment, like a dictating machine and a decent typewriter, and most of all, a really good secretary.

And Mr. Maloney found one other way to cut costs. He says he is adamant about this simple rule: "Never, but never, buy anybody lunch."□

A wooden plough drawn by oxen precedes the sower in this almost biblical scene in the State of Punjab.

India's Green Revolution

R. C. KAMO, Commercial Officer, New Delhi.

India is the second most populous and the seventh largest country in the world. The present population is thought to be around 577 million; the 1971 census put it at about 547.9, compared with 439 million in 1961. The per capita GNP in 1970 was estimated to be $110. The land area is 1,127,345 square miles, of which more than 400 million acres are cultivated.

Nearly 70 per cent of the labour force is employed in agriculture, which supplies raw material such as cotton and jute, textiles and sugar for some of the major industries and also provides a large percentage of the country's exports. But the goal of self-sufficiency in food production still has not been attained, largely because of a drought that lasted two years. Total production of foodgrains, which was 54 million tons in 1950-51, increased to 108.4 million tons in 1970-71 through a widespread program of using better and higher-yielding seed. At that time the Government thought self-sufficiency had been reached and even initiated export programs but, because of the drought, ended up with having to pay for imports with cash.

Lack of sufficient water for irrigation, the continuing population increase and shortage of power and fertilizers probably mean that India will have to continue imports of food for some time to come.

Since 1958 Canada has supplied India with fertilizer worth $20.24 million on a grant basis and nearly $70.6 million against development loans. In 1971 Canada was India's main source of supply for sulphur, a basic raw material for a large portion

Hand labour is still very much a part of the business of growing rice.

of the domestic fertilizer production. We have also supplied urea, ammonium sulphate and diammonium phosphate and have become India's main source of supply for muriate of potash.

Programs have been initiated for cattle development, fodder development, poultry development and sheep and piggery development. The objectives are to increase the supply of protective foods, to provide draught power for farm operations and to improve the output of certain products of commercial importance such as wool and hides. Efforts to develop cattle breeding farms with imported cattle and semen are under way and a major dairy farm program has been undertaken in co-operation with the World Food Program (WFP) of FAO.

The Indian farmer is increasingly using modern mechanization for harvesting and thrashing operations. The total number of tractors in use increased from 21,000 in 1956 to 170,000 in 1972. More than 500 combines were in operation during the 1973 wheat harvest in the Punjab, the major wheat producing state.

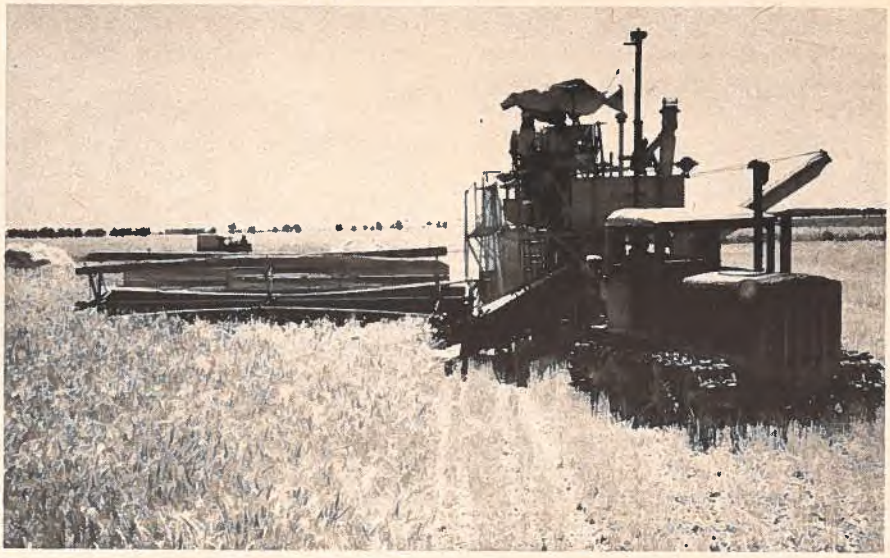
Canadian Participation — Canada is participating in two agricultural projects in India — dryland research and groundwater survey. Canadian support in dryland farming, the headquarters of which are at Hyderabad, includes five scientists, more than $1 million of farm machinery and laboratory equipment and a limited program of training in Canada for selected Indian scientists. This project is established to stimulate research into the peculiar problems of the dryland areas of India, which are approximately 75 per cent of the country. The objective of this integrated package of technical and capital assistance is to help dryland farming development by applying the techniques successfully used in tackling the same problem in Canada. By a combination of deep sowing, intercropping, water harvesting, use of fertilizers and suitable crop strains, the experiments demonstrated the scope for another Green Revolution in India, one that would carry the newly won prosperity of the irrigated farmlands to the typical dryland farmer.

Another project with far-reaching implications is a hydrogeological resources survey (groundwater survey) being carried out by the Central Groundwater Board in co-operation with the Research Council of Alberta. The Council developed a method of showing on one map all the data relevant to the groundwater resources of a given area. Four Canadians, based in Hyderabad, are engaged in passing on these new techniques to the staff of the Central Groundwater Board and, at the same time, producing a detailed survey report on a 3,000 square mile area in Andhra Pradesh and Mysore. The objective of this project is to train CGWB personnel in the latest techniques of groundwater resource assessment and data recording so that the results of the detailed work in the project area can subsequently be used by various Indian agencies to cover the remaining hardrock area of the Deccan Plateau. The resulting surveys will be definitive guidelines for agencies working to develop the full groundwater potential for the Indian farmer without overtaxing the very limited groundwater resources.

For the future, CIDA is hoping to intensify Canadian involvement in the Indian agricultural sector. Extensions to the dryland farming and groundwater survey projects are being considered. CIDA is also looking at two animal husbandry projects where Canadian expertise is world renowned.

In order to increase productivity in the agricultural sector — foodgrains, animal husbandry, dairying

One of the 500 or so combines being used in the 1973 harvest.



etc. — the Fifth Plan provides for outlay of Rs. 48,417.6 million for agriculture and allied programs. The Plan seeks to extend acreage of the high-yielding seed varieties that were evolved and tried during the earlier Plan. Emphasis is on agricultural research and education. An increase of nearly 27 million acres of cropped area is projected over and above the present area of about 420 million acres. Projections are to produce 140 million tons of foodgrains by 1978-79. Major programs are being developed to raise the production of milk, poultry and eggs. India, having tasted success in the introduction of Green Revolution technology, will be devoting an increasing amount of financial and manpower resources to technology during the Fifth Plan period.

Nova Scotia Goes Overseas

A group of Nova Scotia businessmen and government officials left a chilly province in mid-March to find a warm reception for their goods and services in London and Brussels during 'Project Eurotrade'.

Although several of the 16 participating firms had established markets in Britain and on the Continent, a number of the companies were making their first serious efforts to establish contacts and sales outlets on the other side of the Atlantic.

Project Eurotrade, sponsored by the Nova Scotia Department of Development, was a three-pronged undertaking involving trade, industrial and travel promotion. Also participating were the Federal Departments of Industry, Trade and Commerce and Regional Economic Expansion, the Nova Scotia Department of Tourism, the office of the Province's Agent General in London and Industrial Estates Limited.

Company representatives made contact with at least 150 businessmen during the mission. Many of these contacts were positive, with a number resulting in direct sales. Both government officials and company representatives were most interested in the long-term prospects of the mission.

Product lines represented in the specially-designed 1,500-square-foot Nova Scotia exhibit included flour, lumber, fish, spices, electronic components and equipment, fruit, yachts, pipe and wall panelling. The use of the port of Halifax and the shipping of goods by container were actively promoted in both centres.

Provincial government officials discussed investment opportunities in Nova Scotia with members of the industrial and financial communities. The Department of Tourism held receptions for members of the travel industry in Glasgow, London, Frankfurt and Brussels to promote the province's tourist attractions, and to learn more about European tourist requirements.

Representing the Department of Industry, Trade and Commerce during the mission, and a member of the federal-provincial planning committee for Eurotrade, was C. P. (Cliff) McPherson, IT&C's director in Halifax. □

Part of the Nova Scotia exhibit at the Canadian High Commission in London, England.

Something To Think About
Here Come The Think Tanks

E. C. BUTTON, Managing Editor

In the last 30 years the United States Federal Government has increased its expenditure on Research and Development by more than 700 per cent. There are close to 20,000 Research and Development (R&D) organizations in the United States, of which some 600 can be labelled "think tanks". In this article *Canada Commerce* takes a look at think tanks, their influence in the United States, and what appears to be a growing trend for Canada.

What are think tanks? First of all, they are part of the R&D scene. But they are not specialized groups — rather they are multidisciplinary and not limited to professionals from one field. Think tanks are more likely to affect policies, goals and directions, rather than to seek out an answer to a specific problem. They are more interested in the policies and ramifications of a technology, rather than the technology itself.

The U.S. scene — Although think tanks exist in Britain, in some countries in Western Europe, and in Canada, the United States has been by far the most prolific creator of the think tanks. The national R&D budget for the U.S. is larger than the total budget of most medium-size nations. The annual space research budget alone is greater than the total annual budget in the 1920's. As we have said, the U.S. Federal Research and Development budget grew by more than 700 per cent over the last 30 years, from $250 million in the 1940's to $16 billion in the 1970's.

a shift away from defence work to civil programs

Initially, R&D organizations were spawned from government work, primarily military. Even today, most people tend to regard think tanks as creators of the master plans for national defence, military campaigns, and foreign policy. But a change has been taking place. Defence spending has levelled off and may even be cut back significantly. At the same time increased attention is being given to civil programs. As these two trends have been evolving, the think tanks have shown a definite trend to diversify. They have been in search of new markets outside government. New organizations, created to deal with internal, civil, urban and environmental matters, led the way. Faced with ever-reducing government defence contracts, even the established groups have turned to these areas.

At the top — The three largest and most well-known groups in the U.S. are the Rand Corporation, the Hudson Institute, and the System Development Corporation (SDC).

The Rand Corporation started in the 1940's under an arrangement with the Douglas Aircraft Company and the U.S. Air Force, and emerged as a non-profit independent in 1948. Since then, Rand has grown to include a staff of over 1,000 and is sponsored to the tune of some $30 million a year. Over these years Rand has produced some 11,000 reports. All this from its start in 1948 with 300 employees, and a $3 million annual budget. It has been continually linked with the military and Washington, and most people will identify the Rand Corporation with Dr. Daniel Ellsberg, the "Pentagon papers" and McNamara's "whiz kids". Military research used to be its only function but this constitutes about half of Rand's work today. For example, its pioneering in analytical and mathematical techniques for policy and future evalution has made Rand the model for most of today's think tanks. It was Rand which, 20 years ago, invented the Delphi technique, a commonplace research and forecasting tool of today's R&D world.

The Hudson Institute, started in 1961, has been molded by the forceful, prolific, controversial and outspoken character of its director Herman Kahn. It is less Establishment-oriented than Rand and, as in the case of Rand, there has been a shift away from defence work to the point where it only accounts for about half of Hudson's research. In other areas, the Hudson Institute is involved in long-range planning for the U.S. space program; an analysis of youth movements, rebellion and alienation; studies of race relations; research into anti-poverty measures, and international development.

A branch of the Hudson Institute is planned for Canada. It will be set up in Montreal, with control resting in Canadian hands.

In contrast to both Rand and Hudson is the computer approach of Systems Developments Corporation, with reliance on technology. SDC is the think tank pioneer in areas such as information technology, the systems approach, data retrieval, systems sciences, simulation and information management. SDC is one of the leading computer systems and software firms. In the late 1960's SDC moved from a non-profit status as a military contractor to become an independent power in computer software.

labelled by critics as the "shadow government"

Other areas — We have looked at the "biggies", selected on the basis of their size and their impact on today's world. There are others, such as the Diebold group, the Orbach Corp., and Arthur D. Little Inc. These smaller groups do research on tasks such as urban renewal plans, searching out new industries for a region, economic impacts and advising smaller nations on a wide variety of problems. In addition, there are the groups involved in future research, groups such as the Club of Rome and the group it sponsored at MIT, and the Institute for the Future. These groups employ technological forecasting — monitoring trends and events to determine their implications on the future. Here again much has been derived from the Rand Corporation.

Think tanks have been instrumental in many government policies. They offer the benefits of applying to a problem multidisciplinary and highly competent professionals, with independence from the political process.

On the other hand, they have been criticized in the U.S. for their ever-increasing power — a power few question or challenge. They have been labelled by critics as the "shadow government" or the "fourth branch" of government, probably as a result of their exclusive association with government prior to becoming independent. Either way, their growth and influence has been significant.

a ground swell in Canada to bring the academic world into the industrial scene

The Canadian scene — There are few think tanks in Canada and, as yet, none on the scale of the large American groups. Historically, Canada has relied on Royal Commissions or task forces to cope with the problems or situations passed on to the American think tanks. But there have been small groups at various universities across the country engaged in research on public policy questions. Looking ahead, two government reports and some recent events appear to be heralding a trend.

The eighth Annual Review of the Economic Council of Canada dealt with the use of systematic and forward-looking approaches to policy making. One of the Council's recommendations was the establishment of an independent research institute concerned with the analysis of public policy issues, essentially along the lines sketched briefly in the Speech from the Throne of September 1968. Directly related to this recommendation and, in particular, to the Throne Speech was the report "An Institute for Research on Public Policy", published in December 1969 and usually known as the Ritchie Report. Commissioned by the Government, this report brought together information on think tanks, and made proposals for setting up such an institute in Canada.

What has taken place since these reports were published? There have been a number of attempts to bring Canadian universities and Canadian industry closer together. Government departments, various industrial associations and even The Ford Foundation sponsored research groups at several Canadian universities. Generally speaking, these activities are related to regional problems, or problems of a sector of the economy.

Looking at the national scene there have been two significant events: the Hudson Institute has plans to set up the Hudson Institute of Canada, and the Institute for Research on Public Policy, which was incorporated in 1972, will become operative under its first president, Alfred William Rooke Carrothers, who will leave the presidency of the University of Calgary. This latter institute is the result of the recommendation in the Ritchie Report. On the board of this institute will be some significant names: representatives of industry, the academic world, the media and government. Four of the 20 board members will be women. It is intended that the institute will stay away from classified research projects and deal, at least at first, with urban and rural man, the administration of justice and a study of resources including human, natural, renewable and non-renewable, the environment and Canada's native peoples.

One item of significance in the emergency of think tanks on the Canadian scene — these groups are starting as independents with support from both government and industry rather than 100 per cent government/military.

What's ahead? — Looking at the world picture, there are a number of significant trends. First, there is the trend of U.S. R&D groups to seek sponsors and contracts outside their traditional government and defence work. Will they limit their search to the U.S. alone? Second, there is a ground swell in Canada to bring the academic world of our universities into the industrial scene. Third, there is the creation of the Hudson Institute of Canada and the Institute for Research on Public Policy.

One historical fact in the R&D boom in the U.S. might be worth considering. Apparently, groups of bright young people have been able to get into the business with limited capital, and to establish their operations with little more than initiative, drive and a clear insight into the type of R&D that government and large companies will support. Does this present an opportunity for Canadian business?

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Canada's Industrial Future

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This is an attempt to outline for further detailed investigation those industries that appear to offer the growth potential required to satisfy Canadian technological, economic and social expectations through the year 2000.

Because these expectations are not well defined, and because there is an increasing awareness of the complex relationships between man's political, physical, social, economic and technological environments, it is quite possible that future developments will differ from those considered in this paper. The future will always be uncertain but, to quote Winston Churchill: "It is always wise to look ahead, although it is difficult to look farther than one can see".

For these reasons what follows should not be taken as anything but the opinions of the author.

Any discussion of our industrial future must consider first the parameters that are likely to govern our future in general and then proceed on the basis of rational assumptions regarding those parameters.

orthodox methods of distribution will be replaced by computer-based data banks that will combine on a national, continental or world-wide basis the telephone company's Yellow Pages

For the purposes of this article a reasonably "neutral" or "surprise-free" Canadian future has been assumed. Careful consideration of our history, and the established nature of our political, social and educational institutions indicate that sudden, abrupt changes in Canadian policies and attitudes are unlikely, although our exposure to United States influences will probably increase, as will pressures to become part of some larger political or commercial entity. It is true that when a high proportion of any country's trade is foreign, the national economy of that country tends to be at the mercy, to a large extent, of external trading conditions completely beyond its control, but there are also indications on the international scene that practically all large trading nations realize that they have a mutual interest in attempting to control such conditions.

It has been assumed also that there will be no major international wars during the next 30 years and that, in general terms, most people in the world will strive for increased affluence or improvements in their quality of life — possibly at the expense of material possessions.

Politically, and socially, possible changes in Canada during the same period of time may include:

- increasing concern with the possible future consequences of current decisions:
- increasing demand that all significant actions taken by business, government and industry be proceeded by careful evaluation of total "costs" and "benefits";
- more leisure time;
- increasing interest in education for its own sake;
- rejection of heavy, dirty or dangerous manual labour;
- demand for "interesting" jobs;
- increased interest in national and international affairs at the expense of local, regional and sectional interests;
- significant changes in attitudes regarding attempts to eliminate regional economic disparities;
- complete revision of the British North America Act, and the emergence of a strong central government (this may take place only under serious crisis conditions);
- provision of improved social services, including health care, on a no-charge basis;
- significant changes in population distribution, and the average age of the population;
- direct redistribution of income by federal legislation.

All these factors, as well as the depletion of the non-renewable natural resources that are presently so important to our export trade, indicate that the spectrum of Canadian industry must undergo radical changes during the next 30 years if we wish to preserve and improve our current life-style as well as eliminate poverty, ensure satisfactory living standards for senior citizens, assist the developing nations and generally play a useful part in world affairs.

Overview — What will be the expanding industries for the rich one-fifth of the world (North America, Northwest Europe and Japan — with perhaps Australia, Israel and Brazil) during the next 30 years? As the whole world will move closer towards being a consumer society, the obvious answer is that most North Americans, Northwest Europeans and Japanese will gravitate towards those jobs that the richest one-fifth of a consumer society usually regard as desirable and socially acceptable, namely, occupations.

computerized learning aids in education will require teachers to abandon traditional roles in favour of being treated as resources

Most of the countries included in this rich segment of the world are rapidly advancing into an age when 50 per cent or more of young people will continue their education up to at least a first-degree level, or its equivalent, and very few graduates will choose to work on an assembly line — no matter how sophisticated the product. In Canada this problem will probably become acute in the 1980's.

By this time — as shown by recent demographic studies — the growth of the Canadian labour force will have fallen to about its "normal" level, in the order of 2 per cent a year, from the rate of 2.6 to 2.8 per cent forecast for the 1970's. This reduction will be largely due to the smaller and fewer new families of the late 1950's and early 1960's and the immediate impact will be complete reversal in national objectives. For the next seven to ten years job creation, particularly "appropriate" or "meaningful" job creation, must be accorded high priority, but by the mid-1980's, if present GNP growth rates continue, it is likely that the growth of new jobs will exceed the growth of new job-seekers and labour shortages may appear. Early retire-

Foreign Exchange Rates

These nominal quotations may help exporters in checking prices, but they should consult their banks before making any firm commitments. When more than one rate is shown, the one to be used depends on the commodity traded. Information on the rate for any specific commodity may be obtained from the International Bureaux, Department of Industry, Trade and Commerce, Ottawa.

The mid market rates only are quoted, except when buying and selling rates are specified. The buying rate is that at which banks purchase exchange from exporters; the selling rate is that at which banks sell exchange to importers.

Rates used exclusively in non-merchandise trading are *not* included in this table.

Note: The following rates were current at June 18. Because of unsettled market conditions exporters should consult their bankers for up-to-date quotations.

Country and Currency	foreign currency unit in Canadian dollars	Canadian dollar in foreign currency units
Algeria		
Dinar	.2380	4.20
Arab Republic of Egypt		
Pound (official)	2.4682	.41
Argentina		
Peso (financial)	.0966	10.35
(commercial)	.1932	5.18
Australia		
Dollar	1.4366	.70
Austria		
Schilling	.0532	18.80
Bahamas		
Dollar	.9658	1.04
Belgium and Luxembourg		
Franc	.0256	39.06
Bermuda		
Dollar	1.0397	.96
Bolivia		
Peso	.0482	20.75
Brazil		
Cruzeiro (official free)	.1450	6.90
Britain		
Pound	2.3063	.43
British Honduras		
Dollar	.6078	1.64
Burma		
Kyat	.2002	5.00
Chile		
Escudo (commercial)	.0013	769.23
(financial)	.0012	833.33
China, People's Republic of		
Yuan	.4188	2.39
Colombia		
Peso (fixed)	.0374	26.74
Costa Rica		
Colon	.1453	6.88
Cuba		
Peso		N.A.[10]
Czechoslovakia		
Koruna (fixed basic rate)		N.A.[10]
Denmark		
Krone	.1616	6.19
Dominican Republic		
Peso	.9658	1.04
Ecuador		
Sucre (official)	.0389	25.71
El Salvador		
Colon	.3863	2.59
Fiji		
Dollar	1.2073	.83
Finland		
Markka	.2611	3.77
France, Monaco, etc.[1]		
Franc	.1962	5.10
French Pacific[2]		
Franc	.0108	92.59
Franco-African Republics[3]		
Franc	.0040	250.00
Germany		
D Mark	.3826	2.61
Ghana		
New Cedi	.8370	1.19
Greece		
Drachma	.0333	30.03
Guatemala		
Quetzal	.9658	1.04
Guyana		
Dollar	.4444	2.25
Haiti		
Gourde	.1932	5.18
Honduras		
Lempira	.4819	2.08
Hong Kong		
Dollar	.1895	5.28
Hungary		
Forint (official)	.0869	11.51
Iceland		
Krona (official)	.0098	102.04
India		
Rupee	.1236	8.09
Indonesia		
Rupiah	.0024	410.00
Iran		
Rial	.0143	69.50
Iraq		
Dinar	3.2623	.31
Ireland		
Pound	2.3063	.43

Country and Currency	foreign currency unit in Canadian dollars	Canadian dollar in foreign currency units
Israel Pound	.2300	4.35
Italy Lira	.0015	666.66
Jamaica Dollar	1.0624	.94
Japan Yen	.0035	285.71
Kenya[4] Shilling	.1379	7.25
Korea, Republic of Won	.0024	404.38
Lebanon Pound (free)	N.A.[10]	
Libya Dinar	2.777	.36
Malawi Kwatcha	1.2280	.81
Malaysia Dollar	.4077	2.45
Mexico Peso	.0771	12.97
Morocco Dirham	.2302	4.34
Netherlands Florin	.3640	2.75
Netherlands Antilles Florin	.5396	1.85
New Zealand Dollar	1.4144	.71
Nicaragua Cordoba	.1380	7.25
Nigeria Naira	1.4700	.68
Norway Krone	.1781	5.61
Pakistan Rupee	.0973	10.28
Panama Balboa	.9658	1.04
Paraguay Guarani (free)	.0078	128.21
Peru Sol (free)	.0225	44.44
Philippines[5] Peso (free)	.1441	6.94
Poland Zloty (fixed basic rate)	.2577	3.88
Portugal & Overseas Provinces[6] Escudo	.0388	25.58
Saudi Arabia Riyal	.2850	3.50
Sierra Leone Leone	1.2371	.81
Singapore Dollar	.3358	2.98
South Africa Rand	1.4390	.69
Spain & Dependencies Peseta	.0165	60.60
Sri Lanka[7] Rupee	.1478	6.77
Sweden Krona	.2203	4.54
Switzerland Franc	.3219	3.11
Syria Pound (free)	.2711	3.69
Thailand Baht (free)	.0482	20.75
Trinidad & Tobago[8] Dollar	.4805	2.08
Tunisia Dinar	2.2192	.45
Turkey Lira	.0684	14.62
United States Dollar	.9658	1.04
Uruguay Peso (free)	.0008	1,250.00
Venezuela Bolivar (official free)	.2250	4.44
Yugoslavia Dinar (official)		N.A.[10]
Zaire, Republic of[9] Zaire	1.961	.51
Zambia Kwacha	1.3893	.72

1. Franc is also used in French Guiana, Guadeloupe and Martinique.

2. New Caledonia, New Hebrides, French Polynesia.

3. Chad, Central African Republic, Congo (Brazzaville), Dahomey, Gabon, Ivory Coast, Islamic Republic of Mauretania, Niger, Senegal, Upper Volta, Cameroon, Togoland, and Malagasy. Also Reunion, Comoro Islands, St. Pierre and Miquelon.

4. Rate also applies to Tanzania and Uganda.

5. Exchange rate in Philippines on floating basis with daily quotations by banks.

6. Approximately same for Portuguese territories in Africa.

7. Formerly Ceylon.

8. E. C. dollar, at same rate, used in Leeward and Windward Islands.

9. Formerly Congo (Kinshasa).

10. Rates not available at press time.

Foreign Tariffs and Trade Regulations

Brazil

The Customs Policy Council announced the following tariff changes.

Resolution 2061 exempts from duty until December 31, 1974 a quota of 30,000 tons of raw jute (excluding "Kenaf" or "Thailand" jute) (tariff heading 57.03.01.00).

Resolution 2062 of March 12, exempts from duty unwrought aluminum and its alloys if the importer proves acquisition of equal quantity of national product as that imported (tariff headings 76.01.01.00 and 76.01.02.00).

Resolution 2063 reduces the duty from 25% to 5% on dimeric acid (tariff heading 38.19.99.00).

Resolution 2064 of March 12, 1974 exempts from duty for 6 months acrylic resin for extrusion (tariff heading 39.02.02.09).

Resolution 2065 exempts from duty until December 31, 1974 the following products: diethylene triamine (tariff heading 29.22.39.00); triethylene tetramine (tariff heading 29.22.42.00); tetraethylene pentamine (tariff heading 29.22.99.00); white mineral oil, inodorous, uncoloured, free of sulphuric components, with medicinal qualities (tariff heading 27.10.08.00); natural cork, unworked (tariff heading 45.01.01.00); and paper and paperboard impregnated with artificial or synthetic resins (tariff heading 48.07.07.00).

Resolution 2066 exempts from duty until December 31, 1974: ethylene chloride (dichloroethane) (tariff heading 29.02.09.00); nylon polymer 6.6 (hexamethylene-diamine adipate) (tariff heading 39.01.02.06); biaxially oriented polypropylene sheets with nominal thicknesses up to 0.026 mm. for use in electric condensers (tariff heading 39.02.04.99); ionomeric resins and copolymer of vinyltoluene-acrylate (tariff heading 39.02.02.99).

Resolution 2067 exempts from duty until December 31, 1974: tung oil, crude, refined or purified (tariff heading 15.07.14.00); tung oil, boiled or oxydised (tariff heading 15.08.01.03); ethylene glycol (ethanediol, glycol) (tariff heading 29.04.28.00).

Resolution 2068 reduces the duty from 55% to 25% until December 31, 1974 on textured nylon filaments, printed or dyed, of over 1000 denier (tariff heading 51.01.01.04).

Resolution 2069 exempts from duty until December 31, 1974 polyvinyl chloride compound for electric conductors with a Shore hardness of A70 to 90 (A STM-D 2.240) (tariff heading 39.02.02.05). A certificate of guarantee and type is required.

Resolution 2071 of March 12, 1974 exempts from duty: rotating, vacuum evaporators with capacity of 5 ml. to 50 litres (tariff heading 84.17.04.05); electronic computer systems including UCP for exclusive use in hospitals or clinics (tariff heading 84.53.01.00) opthalmic apparatus and instruments including sight-testing appartus (tariff heading 90.17.79.00); some equipment for intensive medical treatment (tariff headings 90.17.99.01 and 90.17.99.99); ultrasound vaporizer resuscitation system (tariff heading 90.18.08.00); pacemakers (tariff heading 90.19.08.00). Terms and conditions for duty exemption are included in Resolution 1803.

Resolution 2072 of March 12, 1974 increases the duty from 9% to 35% for 2 years on some medical, dental and surgical instruments and appliances classified under tariff heading 90.17.00.00, 90.18.00.00 and 90.19.-00.00.

Resolution 2074 reduces the duty from 55% to 15% until December 31, 1974 on polyvinyl alcohol yarn, continuous (tariff heading 51.01.01.01) and on polyvinyl alcohol yarn, discontinuous (tariff heading 56.05.01.03).

Resolution 2080 of March 21, 1974 exempts from duty for one year fertilizer compound impregnated in pressed vegetable fibres, molded into receptacles for plants (tariff heading 31.05.99.00).

Resolution 2081 of March 21, 1974 exempts from duty for one year 2-Ethylhexoic acid (2-octylic acid) (tariff heading 29.14.34.00 and naphthenic acids (mixed acids) (tariff heading 38.19.02.00).

Resolution 2082 extends for one year as of March 21, 1974 the duty exemption granted by Resolution 1595 on neutral sodium carbonate (tariff heading 28.42.17.00).

Resolution 2083 of March 21, 1974 reduces the duty from 85% to 15% for one year on polycarbonate sheets with a thickness from 0.002 to 0.8 mm (tariff heading 39.01.04.99).

Resolution 2085 exempts from duty until December 31, 1974 butyl hydroperoxide (tariff heading 29.08.99.00) and benzoyl peroxide (tariff heading 29.14.37.00).

Resolution 2086 of March 21, 1974 reduces the duty from 55% to 5% for one year on thermoplastic polyester PBT (polybutylene terephthalate) (tariff heading 39.01.02.05); polycarbonate synthetic resin, in granules, for industrial use (tariff heading 39.01.02.10); resin based on phenyl polyoxide, in granules, for industrial use (tariff headings 39.01.02.99 and 39.02.02.99); and acetalic resin of polyacetol (tariff heading 39.02.02.99).

Resolution 2087 of March 21, 1974 exempts from duty for 6 months cellulose nitrate containing fillers, colouring matter, plasticisers or other materials (tariff heading 39.03.04.04).

Resolution 2089 extends for 6 months as of March 21, 1974 the duty reduction from 70% to 15% established by resolution 1624 on regenerated cellulose sheets or films (cellophane paper) (tariff headings 39.03.01.01 and 39.03.01.02).

Resolution 2090 extends for one year as of March 21, 1974 the duty exemption established by resolution 1250 on coal, lignite, peat, coke, retort carbon classified under the following tariff headings 27.01.01.00, 27.01.02.00, 27.01.03.00, 27.01.04.00, 27.02.00.00, 27.03.00.00, 27.04.00.00, 27.05.02.00, 27.08.02.00, and 27.14.02.00 subject to prior authorization and to compliance with the conditions stipulated by the National Petroleum Council.

Resolution 2091 exempts from duty until December 31, 1974 special polyvinyl resin for exclusive use in the manufacture of battery separators (tariff heading 39.02.02.05).

Resolution 2093 of March 21, 1974 exempts from duty for one year offset typographic printing paper with a mechanical pulp content superior to 50% and weighing not less than 33 g/m² (tariff headings 48.01.01.99 and 48.01.02.99).

Resolution 2094 exempts from duty until December 31, 1974 a quota of 1500 metric tons of master batch for the manufacture of pneumatic tires (tariff heading 40.05.00.00).

Resolution 2095 exempts from duty for one year as of March 21, 1974 neutral potassium carbonate (tariff heading 28.42.16.00).

Resolution 2096 of March 21, 1974 exempts from duty for 6 months ferro-chrome of low carbon content (maximum carbon content of 2%) (tariff heading 73.02.04.00).

Resolution 2097 reduces the duty from 45% to 15% for one year as of March 21, 1974 on regenerated cellulose tubing for use in the manufacture of artificial sausage casings in sizes superior to 38 mm (tariff heading 39.03.01.03). Requires certificate of guarantee as to type and specifications.

Resolution 2098 of March 21, 1974 reduces the duty from 55% to 5% for one year on laminated imitation fabric of high density and resistance, artificial leather type, with a thickness of 0.6 mm and weight of 165 to 200

g/m², for the manufacture of plastic fabrics (tariff heading 59.03.01.99).

Resolution 2100 of March 21, 1974 exempts from duty for six months clear uncoloured glass vials of 300 cc and 600 cc for pharmaceutical products (tariff heading 70.10.99.00).

Resolution 2101 exempts from duty for 12 months as of March 21, 1974 a quota of 3000 tons of glacial acetic acid (tariff heading 29.14.01.01).

Resolution 2102 exempts from duty for one year ethyl hydroxyethyl cellulose (tariff heading 39.03.07.99).

Resolution 2105 exempts from duty until December 31, 1974 PVC scrap for recycling industry (tariff heading 39.02.02.05).

Resolution 2106 extends until December 31, 1974 the duty exemption granted by resolution 1877 on polyvinyl chloride resin in suspension and polyvinyl chloride resin emulsions for plastisols (tariff heading 39.02.02.05).

Resolution 2109 of March 21, 1974 exempts from duty for one year railway track material of iron or steel (rails, check-rails, crossings, etc.) provided there is no national similar available or national production facilities are unable to meet demand (tariff heading 73.16.00.00).

Resolution 2112 of April 4, 1974 exempts from duty for one year ferrosilicon containing more than 8% but not more than 96% of silicon and containing no aluminum or less than 5% of aluminum (tariff heading 73.02.08.00).

Resolution 2114 of April 5, 1974 exempts from duty for one year polypropylene-resin (tariff heading 39.02.02.12).

Resolution 2116 reduces the duty until December 31, 1974 from 55% to 10% on nylon filaments (tariff heading 51.01.01.03) from 55% to 25% on polyester filaments (tariff heading 51.01.01.05) from 55% to 5% on rayon acetate filaments (tariff heading 51.01.02.03) from 55% to 25% on nylon fibre (tariff heading 56.01.01.01) from 55% to 25% on polyester fibre (tariff heading 56.01.01.02) from 55% to 25% on filament tow of polyester fibre (tariff heading 56.02.01.02) from 55% to 25% on polyester wicks (tariff heading 56.04.01.02). Tariff reductions do not apply to texturized filaments of nylon, polyester or rayon acetate.

Resolution 2117 exempts from duty for one year as of April 5, 1974 sisal yarn, bleached or unbleached over 750 m/kg (1 and 2 strands) (tariff headings 57.07.01.01 and 57.07.01.99).

Colombia

Decree No. 515 of March 28, 1974 substantially reduced tariffs on more than 2,000 commodities. Information regarding rates of duty applicable on specific items may be obtained from the Latin America Division, Western Hemisphere Bureau.

Iceland

The Icelandic Ministry of Commerce has announced the implementation of an import deposit scheme which will remain in effect until September 30, 1974. Under the scheme importers are required to deposit in the Icelandic Central Bank an amount equal to 25 per cent of the value of imported goods. The deposit will be returned in 90 days with interest calculated at 3 per cent per annum.

Certain basic commodities have been exempted from the requirements including cereals and basic foodstuffs, liquor, raw materials and fuel. Although Canadian exports to Iceland are small a number of products will be affected including aluminum fabrications, automobile tires, prefabricated houses and office machines as well as a range of processed foods and manufactured goods.

Further information regarding the inclusion or otherwise of particular goods in this scheme is available from the European Bureau, Department of Industry, Trade and Commerce (phone 613-995-6438).

Italy

Effective May 7, 1974, Italian importers of a wide range of goods are required to make a deposit of 50 per cent of the c.i.f. value of such imports into the Bank of Italy. The deposit to be made at the time of customs clearance is for a period of 180 days and does not bear interest. It applies to imports from all countries. The list of goods concerned, covering more than 400 items, does not include industrial materials and capital goods considered essential for the Italian economy. In addition, imports whose value does not exceed one million lira (about $1,600) are exempted.

Among the goods subject to the deposit requirement, the following appear to be of particular interest to Canadian exporters: live animals, meat, fish (except salted cod), vegetables, furs, manufactures of furs, abrasives, glass basic products, textile industries machinery, telecommunications equipment, measuring instruments.

Information as to whether or not any particular goods are subject to the Italian import deposit requirement may be obtained from the Western Europe Division, European Bureau, Department of Industry, Trade and Commerce, Ottawa K1A 0H5, (phone 613-995-9401).

Jamaica

The Jamaican Government has relaxed import restrictions on commercial vehicles, certain consumer goods, raw materials and capital goods.

Importing an additional $10 million of commercial vehicles and $20 million of consumer goods will be allowed. The ceiling on raw materials has been increased by $25 million and on capital goods by $25 million.

Specific import licences are no longer required for the following items: needles and pins; artificial eyes and limbs; blood and plasma; books, newspapers, magazines, periodicals; correspondence courses; maps, plans and technical drawings; music printed or in manuscript; slate and slate pencils; lead pencils; surgical dressings and bandages; surgical instruments; medical and dental sundries; non-electric tools used by artisans and in agriculture; flashlights; seeds and stock for planting; weedkillers, insecticides, fungicides, herbicides; ploughs and similar agricultural machinery; sports goods, not including arms and ammunition; toys and games, spear fishing equipment.

The following items will be licensed freely within reasonable limits: raw materials for the industrial sector; spare parts for machinery and motor vehicles; medical, dental and optical machinery and equipment; essential drugs; laboratory chemicals; gloves of rubber for industrial purposes; contraceptives.

West Malaysia

Importers in West Malaysia have been notified that, effective April 4, 1974 importing of the following classified goods into the principal customs area of the States of Malaya and into Penang Island from all countries is subject to specific licensing and quantitative restriction:

Heading No.	Description of Goods	Country
85.080.300	Spark Plugs	all countries

International Projects

BRAZIL — WATER & SEWERAGE

The World Bank has approved a $36 million loan to assist a water supply and sewerage project in the State of Minas Gerais, the second most populous state in Brazil.

Water supply and sewerage services in Brazil need to be improved and expanded. Investment in the sector have lagged behind the high urban population growth, estimated at an average of 5.5 per cent a year. At present, less than 60 per cent of the people in urban areas have water services and 30 per cent sewer services. The lack of adequate services is a factor in the high percentage of urban population suffering from waterborne disease.

To improve water and sewerage services, the Brazilian Government has made the National Housing Bank (BNH), responsible for the sector. Under BNH, a National Sanitation Plan (PLANASA) aims at providing 80 per cent of the urban population with adequate water and 50 per cent with adequate sewerage services by 1980.

The loan will finance about 40 per cent of the costs of the first phase (1974-1976) of the PLANASA program in the State of Minas Gerais. The project will include management and engineering consulting services for the State water company and studies necessary for the successful execution of the program.

Implementing Organization: Companhia Mineira de Aguas e Esgotos (COMAG), Rua Sergipe 580 (4° Andar), Belo Horizonte, MG, Brazil.

Procurement: All items in the project, with the exception of engineering and consultants' services, to be procured through international competitive bidding. Bids of Brazilian manufacturers will be allowed a 15 per cent margin of preference.

Consultants: COMAG has contracted consultants to prepare studies related to its development program. COMAG will engage management and technical consultants, as well as consultants, for the statewide sewerage survey.

IVORY COAST — TELECOMMUNICATIONS

The World Bank has approved a $25 million loan to the Republic of Ivory Coast to help finance the extension and improvement of the country's local and long-distance telecommunications services.

In recent years the pace of domestic telecommunications development in the Ivory Coast has fallen far behind that of general economic development. Consequently, telecommunications facilities are now inadequate to meet the country's current needs let alone those that will develop as a consequence of new economic development projects and programs now being initiated or in the planning phase.

As of January 1, 1973, the Ivory Coast had about 20,000 direct exchange lines and 45,000 telephones. The Abidjan area has an effective terminal exchange capacity of about 17,400 automatic lines of which 15,000 are connected. The long-distance telecommunications network consists of about 110,000 channels/kilometer. Domestic telegraph service is provided through the telex and telephone facilities. Telex service is provided by a 500-line exchange located in Abidjan.

The 1974-1978 telecommunications development program which constitutes the present project provides for investments totaling $53.6 million. The Bank loan of $25 million will finance 47 per cent of the total project cost. The remaining will be financed through grants and loans of $2.8 million from French Government Agencies and Ivory Coast Government and $2.9 million in suppliers' credits. APT will finance 43 per cent of the project from internal cash generation.

Implementing Organization: Administration des Postes et Télécommunications, Ministère des Postes et Télécommunications, Abidjan, IVORY COAST.

Procurement: Procurement of all Bank financed equipment which represents about 63 per cent of the project's foreign cost and 47 per cent of its total cost will be on the basis of the Bank's guidelines for international competitive bidding. There are no domestic preferences. Part of the equipment for the project, financed from other sources has either already been ordered under suppliers' or bilateral financing or, for reasons of standardization, will be ordered from known sources on a negotiated contract basis. Buildings and civil works and minor local cost items will be procured locally following the Government's normal procurement procedures.

Consultants: Consultants will be employed for detailed engineering, supervision of equipment installation, improvement of accounting services, tariff and institutional studies, and technical training of telecommunication staff.

KENYA — LIVESTOCK

The International Development Association (IDA), an affiliate of the World Bank, has approved a $21.5 million credit for a second livestock development project in Kenya. The new livestock project will extend and enlarge the first one, assisted by IDA with a $3.6 million credit and by a Swedish credit of the same amount in September 1968.

The IDA credit will help finance a broadly-based integrated livestock development program which is designed to support all aspects of beef production and marketing. The project includes elements specifically designed to benefit traditional small livestock owners, to increase export earnings for the country and to lessen the conflict for food and water between domesticated cattle and wildlife.

Agriculture is the most important sector of the Kenya economy providing livelihood for 90 per cent of the population and generating more than 60 per cent of foreign exchange earnings. The livestock population consists of about 9.5 million head of cattle and about 8 million sheep and goats. Kenya has an abundance of land suitable for livestock and wildlife population.

The project will establish or improve about 180 ranches including 60 "group" ranches to introduce modern livestock production methods to traditional nomadic cattle herders. Ten million acres of communal rangeland will be improved through the provision of water facilities and access roads and 31 new cattle markets and 30 new holding grounds will be established.

Implementing Organization: Agricultural Finance Corporation and the Project Coordination Unit in the Ministry of Agriculture.

Procurement: Components financed by Canada, the United Kingdom and the United States will be procured under their respective procurement procedures. All livestock required for the project will be procured locally. Items costing less than $30,000 will be purchased locally and, where appropriate, will follow Government procurement procedures. Procurement of goods and services costing more than $30,000 will be under Bank/IDA procedures for international competitive bidding. Consultants may be retained for assisting in project monitoring and evaluation, project preparation and related research.

Wanted: Manufacturers

This information is intended to promote additional manufacturing in Canada. Further material on items listed is for prospective Canadian manufacturers only. No responsibility is assumed for claims or statements made. Address inquiries, quoting item numbers, to: Industrial and Trade Enquiries Division, Department of Industry, Trade and Commerce, Ottawa K1A OH5.

Multi-purpose carrying device

Norwegian firm seeks a Canadian licensee for its multi-purpose carrying device which can be utilized as a wheelbarrow, dolly or snow scoop. The flat bottomed, trough-shaped container is constructed of temperature resistant, heavy duty polyethlene. The removable tubular steel handle can be attached to the container bottom to make the device operable as a dolly, or to the end wall to make it into a wheelbarrow. By removing the wheels it becomes a snow scoop. Literature available. Item 3039

Flexible mechanical conveyors

German firm offers under licence the Canadian manufacturing rights to its flexible mechanical conveyor systems. The equipment consists of a motor, a tube system equipped with one or several outlets, and a flexible screw of special or stainless steel running inside the tube. One system offers vertical and horizontal conveying of powdered and granular product up to 8 mm. diameter for a distance of up to 60 m. at a rate of 2 m^3/hr. Two other systems are available which are suitable for use with free-flowing powders and granular materials up to 25 mm. diameter, bulk densities to 1.8, and conveyor lengths of 13 meters. The materials to be transported can be pumped or pulled through the system by installing the motor at the inlet or outlet end respectively. It is claimed that these systems assure uniform conveyance with no separation, dust problem or particle size reduction. Literature available. Item 3040

Garage door control

British company is offering the rights to manufacture under licence in Canada its garage door control for remotely opening and closing hinged or overhead garage doors. The equipment consists of a motor driven mechanism complete with photo receptor which is installed within the garage, push buttons for installation in the garage or house, and a remote control device which is located in the car. To open or close the door, the motor is activated by a frequency-coded light beam from the transmitter in the car. The door automatically locks when in the closed position. It is claimed that the control is not affected by interference from radio, electric wiring, etc. Literature available. Item 3041

Precast drainage system

British company offers the opportunity to manufacture under licence in Canada its precast drainage system. The system is based on the use of combinations of the following units: a standard unit, an inspection unit, a gulley unit and an outlet unit. These units are designed to withstand the heaviest possible loads so they can be used in any situation where surface water drainage is required. The system provides positive drainage where little or no gradient exists. Typical uses for this drainage system include highways, parking lots, airport runways, docks, swimming pools, street intersections, etc. Literature available. Item 3042

Sway control device

American inventor offers under licence or outright sale the Canadian patent rights for his sway control attachment for use with travel trailers, tent trailers, etc. This equipment consists of an accessory device which can be mechanically coupled to conventional weight-equalizing hitches used on various recreational vehicles. The attachment is claimed to improve overall sway control and to be especially effective on curves. Literature available. Item 3043

Exercise and massage apparatus

Spanish inventor offers under licence the Canadian manufacturing rights to his multi-purpose exercise and massage device. This device comprises a nickel-plated metallic frame, which is attached to a wall or door, and a roller and a manually-operated handle, both of which may be adjusted to different heights within the frame. This apparatus provides a mild form of extension-traction and massaging-pressure by direct action of the roller applied to various parts of the body. By adjusting the handle and roller, various exercises can be performed for better posture and for relaxation. The unit weighs 40 lbs. and is easily assembled. Literature available. Item 3044

Adult games

American inventor seeks a Canadian company to manufacture his adult games claimed as unique and exciting extensions of the classic games of chess and checkers. Two variations of chess are available — one for two or four players which incorporates one chessboard within a larger chessboard; another for up to eight players which incorporates nine chessboards. A three-dimensional checker game is available either by itself or incorporated into a lamp. Literature available. Item 3045

Snow fence post holder

American inventor offers under licence the Canadian manufacturing rights to his snow fence post holder. This steel holder provides a lateral and vertical support for any demountable fence that must be removed and installed frequently in the same location, such as snow fencing and fencing for fairgrounds, exhibitions, sporting events, etc. The holders can be driven into the ground or imbedded in concrete. They are formed of a tubular section of conventional two-inch steel pipe, two feet long, with a pointed tip of cast iron or other material. The holders are claimed to be rugged and capable of withstanding great stress and strain. Literature available. Item 3046

Padded shoulder strap attachment

American inventor is interested in licensing a Canadian firm that would manufacture a unique shoulder strap attachment for brassieres that is claimed to provide the utmost in comfort. This device incorporates a length of soft padding which is stitched to a matching length and width of plastic material. The padding conforms to the contour of the shoulder and prevents the formation of shoulder creases which may cause pain in the shoulders and arms. This device is claimed to have particular application for use with garments for the problem bust and with maternity brassieres. It is easy to attach and to remove. Literature available. Item 3047

Pouring cover

Canadian inventor seeks a licensing arrangement with a Canadian company for the manufacture of his pouring cover with attached funnel. The cover is designed for use with standard paint cans to permit pouring with a minimum of mess. It is claimed to be especially useful for fast evaporating paints such as nitrate and butrate dope. The funnel is provided with a snap-on cover and an air vent which permits fast and easy pouring. For storage, the pouring cover can be removed and replaced with the original. Literature available. Item 3048

Export Opportunities

The inquiries listed below come from several sources, including various Branches of the Department in Ottawa and from the Trade Commissioner Service posts abroad. More information on these items can be had by contacting the post at the address shown under each item.

Chemicals

SRI LANKA — X-ray films and chemicals: Commercial Division, Canadian High Commission, P.O. Box 1006, 6 Gregory's Road, Cinnamon Gardens, Colombo.

Engineering

ARGENTINA — Tender calling for a firm to build and operate, in partnership with the state, an integrated steel mill turning out an initial 3,000,000 tons a year made up of 250,000 tons of tinplate, 600,000 tons of cold rolled products and 2,200,000 tons of hot rolled steel plate. Management and operation of the mill would be left in hands of builder: Commercial Counsellor, Canadian Embassy, Casilla de Correo 3898, Suipacha 1111, Buenos Aires.

BURMA — UNDP project for geological survey and exploration including external analytical services and data processing; equipment to conduct photo geological survey and to provide preliminary geological maps; and to conduct preliminary drilling: Permanent Mission of Canada to the United Nations, 866 United Nations Plaza, Suite 250, New York, N.Y. 10017.

IRAQ — UNDP project for rural water supply program to begin end of 1974. Preliminary engineering and feasibility studies including report on investment potential for phase one of first stage construction of rural water supply master plan: Permanent Mission of Canada to the United Nations, 866 United Nations Plaza, Suite 250, New York, N.Y. 10017.

SRI LANKA — UNDP project calling for a master plan for metropolitan area of Colombo and contains subcontract for national strategic analysis, structure planning and option identification, master planning and investment programming, and action planning and implementation recommendations, to begin September 1974: Permanent Mission of Canada to the United Nations, 866 United Nations Plaza, Suite 250, New York, N.Y. 10017.

Equipment and Machinery

ARGENTINA — Tender for the supply of three two cubic yards front end loaders — on crawlers: Commercial Counsellor, Canadian Embassy, Casilla de Correo 3898, Suipacha 1111, Buenos Aires.

ARGENTINA — Runners made from a steel-copper alloy, used for lining narrow excavations to resist pressure from surrounding ground forces, to be 20 metres long with a Z profile and be able to withstand pressures of 1900 kg/cm^2: Commercial Counsellor, Canadian Embassy, Casilla de Correo 3898, Suipacha 1111, Buenos Aires.

LATIN AMERICA — UNDP project to supply equipment for a Caribbean Aviation Training Institute. Training program will include air traffic services, aeronautical information service, pilot, aircraft maintenance, avionics, airport management, aerodrome fire and rescue services: Canadian Representative, International Civil Aviation Organization, 1080 University Street, Montreal, Quebec H3B 3A5.

SRI LANKA — Tender for the supply of crawler drill and mobile air compressor: Commercial Division, Canadian High Commission, P.O. Box 1006, 6 Gregory's Road, Cinnamon Gardens, Colombo.

Materials

SINGAPORE — Fire fighting helmets made of polycarbonate material: Commercial Counsellor, Canadian High Commission, P.O. Box 845, Faber House, 7 & 8 floors, 230/236 Orchard Road, Singapore 9.

SRI LANKA — Supply of technical material for the local formulation of agro-chemicals: Commercial Division, Canadian High Commission, P.O. Box 1006, 6 Gregory's Road, Cinnamon Gardens, Colombo.

SRI LANKA — Electric filament lamp bulbs: Commercial Division, Canadian High Commission, P.O. Box 1006, 6 Gregory's Road, Cinnamon Gardens, Colombo.

SRI LANKA — Glue and hardener for a Plywood Corporation: Commercial Division, Canadian High Commission, P.O. Box 1006, 6 Gregory's Road, Cinnamon Gardens, Colombo.

SRI LANKA — Polythene and Kraft paper bags for a Milk Board: Commercial Division, Canadian High Commission, P.O. Box 1006, 6 Gregory's Road, Cinnamon Gardens, Colombo.

SRI LANKA — Supply of raw materials for a Tire Corporation: Commercial Division, Canadian High Commission, P.O. Box 1006, 6 Gregory's Road, Cinnamon Gardens, Colombo.

Recreation

FIJI — Toys, games and general summer sporting goods: Consul General, Canadian Consulate General, P.O. Box 3952, G.P.O., A.M.P. Building, 19th Floor, Circular Quay, 2001 Sydney, Australia.

SYRIA — All kinds of toys and games: Commercial Counsellor, Canadian Embassy, Boîte Postale 2300, Sabbag Centre, 3rd floor, Hamra Street, Beirut, Lebanon.

The Ocean Freight Market

During May, a generally firm demand in the dry cargo charter market kept rates at a high level. Indicative of market conditions, an all-time record of U.S.$28.50 for a 30,000 tonner was established in the Hampton Roads/Japan coal trade. Grain trades also commanded high rates, for example, Cdn.$36.48 in the route from British Columbia-United States North Pacific/India. A number of tankers (particularly to India) and OBO's (including several loading along the St. Lawrence River) transferred to grain cargoes due to depressed rates in tanker trades.

Ships available for prompt loading attracted premium rates. For heavy grain from the Great Lakes to Belgium/Holland/Germany single voyage rates were as high as Cdn.$40.34 per ton whereas consecutive voyage charters

were as low as Cdn.$14.91 for four consecutive trips. Similar rate spreads between single and contracted consecutive voyages were evident in the St. Lawrence-Belgium/Holland/ Germany grain trade and the Hampton Roads/Japan coal trade. In the latter trade, the contract rate for twelve quarterly voyages was fixed at Cdn.$13.23 per ton compared to the month's peak of Cdn.$27.42 for a single voyage.

May charter fixtures included a number of Canadian trades for which rates are not often published. These included 22,000 tons of gypsum between Nova Scotia and Delaware at U.S.$6.75 per ton, and 50,000 tons of sulphur between British Columbia and the European Continent at U.S.$14.25 per ton. Another Canadian fixture of interest was for 48,000 tons of coal between Vancouver and the U.S. North Atlantic at U.S.$10.50.

In the time charter market, some slippage in rates was noticeable between March and May. For example, in March, rates of Cdn.$6.65 to 8.06 were recorded for charters of two years or longer of dry cargo vessels of 20,000 to 30,000 tons. After some decline in April, May rates were further eroded to between Cnd.$6.16 and 7.31 per ton per month.

Rates remained at a low level in the tanker market during May. Very Large Crude Carriers (VLCC) from the Persian Gulf to Western options were booked for as low as Worldscale 50. The British "Daily Freight Register" observed that when the increased cost of bunker prices is taken into account, these levels are comparable with the record lows of Worldscale 15-20 during mid-1972.[1] Nonetheless, towards the end of May and beginning of June, there was some acceleration in inquiry, and certain rates edged upwards. Tankers continued to be chartered for crude petroleum between Vancouver and the east coast of Canada and the United States. During May a 30,000 ton tanker was chartered at U.S.$9.63 per ton, and early June fixtures were arranged at U.S.$6.83 for a 35,000 tonner and U.S.$6.68 for a 32,000 tonner.

CHARTER RATES FOR REPRESENTATIVE CANADIAN AND WORLD TRADES

Trading	Month	Rate	Fixture Tonnage
Voyage charters		(Cdn. $ per long ton)	
I. HEAVY GRAIN			
St. Lawrence River Ports to Belgium/Holland/Germany	May 1974	8.66 to 16.36	27,335 to 87,000
	April 1974	8.71 to 11.61	25,000 to 70,000
	May 1973	7.77 and 9.28	29,000 and 48,000
Great Lakes to Belgium/Holland/Germany	May 1974	14.91 to 40.34	6,750 to 18,000
	April 1974	20.80 to 38.69	10,000 to 20,000
	March 1974	29.13 and 37.87	14,000 and 19,000
	May 1973	17.55 to 22.91	7,000 to 16,000
British Columbia/United States North Pacific to India	May 1974	36.48	15,000 to 29,000
	April 1974	27.08	28,000
	March 1974	31.07	18,000
	June 1973	19.60	15,000
II. COAL			
Hampton Roads, Virginia, to Japan	May 1974	13.23 to 27.42	23,000 to 58,000
	April 1974	16.93 to 20.31	35,000 to 40,000
	March 1974	13.64 to 20.39	35,000 to 50,000
	May 1973	9.88 to 10.53	32,000 to 70,000
III. CRUDE PETROLEUM			
Persian Gulf to U.S. Northern Range[2]	May 1974	7.00 and 7.25	70,000 and 80,000
	April 1974	7.75	70,000
	March 1974	10.29 and 17.58	45,000 and 50,000
	May 1973	10.75 to 27.65	41,000 to 100,000
West Africa to U.S. Northern Range[2]	May 1974	6.70 and 7.18	47,000 and 56,000
	April 1974	6.97	50,000
	March 1974	7.24 and 8.20	22,000 and 60,000
	May 1973	7.34 and 7.44	32,000 and 51,000
Time Charters			
Vessels from 20,000 to 30,000 tons deadweight for 4 to 8 months:	May 1974	8.90 to 10.10	5 fixtures
	April 1974	—	—
	March 1974	10.44 and 10.88	2 fixtures
	May 1973	5.52 and 7.37	2 fixtures
Vessels from 20,000 to 30,000 tons deadweight for 24 to 36 months:	May 1974	6.16 to 7.31	3 fixtures
	April 1974	6.77 to 7.69	4 fixtures
	March 1974	6.65 to 8.06	3 fixtures
	May 1973	4.91 to 5.43	4 fixtures

[1] "Daily Freight Register", May 9, 1974

[2] Including Portland, Maine, the terminus of the Montreal/Portland pipeline.

ment, shorter working hours, longer paid vacations, and more public holidays will also contribute to this situation.

Under these circumstances it is obvious that, in conventional terms, capital-intensive rather than labour-intensive industries will dominate our industrial future. Based on this type of consideration it is possible to define loosely seven categories of growth industries that will probably form the major part of industrial activity throughout the developed countries of the world through the end of this century:

1. Industries that do not at present exist because the needs that they will service have yet to be perceived. These "sunrise" industries may well represent a significant faction of a total industrial activity and — subject to the necessary resources being available — it is planned that they will be the object of separate detailed investigation. (In this connection it is of interest to note that in the early 1940's many of the large-scale activities that are now commonplace — semi-conductors, nuclear power generation, off-shore drilling for oil and gas, computer service bureau, for example — would probably not have been mentioned in any business forecast for the next 20 or 30 years.)

2. Systems design/capital intensification;

3. The strategic and tactical collection, and use, of capital;

4. The packaging and transmission of expert knowledge;

5. Advanced technology;

6. Construction and civil engineering;

7. "Pop" culture and other "exotic" industries, including leisure;

Categories 2, 3 and 4 may be grouped as "management" and categories 5, 6 and 7 as "worker" industries.

System design/capital intensification — This category is intended to cover all activities relating to the design and implementation of systems to reduce the labour content in what are presently labour-intensive processes or services. Because of its background in computer systems the present data-processing industry will probably tend to move into this field — particularly as the market will exist mainly in the richer countries where this industry is already well established.

Labour-intensive manufacturing processes will probably pass through three phases. In the first phase which is already well advanced — labour-intensive processes will move into cheap labour areas. During the second phase, as automation increases, these processes will probably be repatriated, largely because the technological infrastructure required to support complex automated systems will not be available in such areas. In the third phase, as the systems become simpler, more reliable, perhaps even more automated, and the technological capabilities of the (comparatively) poorer countries improve, these processes will again emigrate in search of cheaper labour, cheaper land, lower taxes, lower material or transportation costs, or less stringent anti-pollution requirements.

Automated distribution — In the field of labour intensive services, two areas in particular are likely to undergo radical changes in the next 30 years. In the private sector orthodox methods of distribution will be replaced by computer-based data banks that will combine on a national, continental or world-wide basis the telephone company's Yellow Pages, individual manufacturers' catalogues, price lists and delivery schedules that will be continuously up-dated.

Potential customers will be able to assess these data banks by means of a computer terminal forming part of their telephone installation. Having made their choice they will then use the terminal to enter an order, specify the delivery mode required, and provide details of the proposed method of payment. Additional computer-based systems could be used to debit and credit the appropriate accounts, verify the specified method of delivery where this is important, and select, pack, label and dispatch the chosen items. If manufacture is involved there would be no difficulty in arranging for the receipt of an order to initiate the preparation and/or amendment of production schedules, the procurement of materials, tools and fixtures, and their delivery to the appropriate workplace at the proper time.

Many of the sub-systems, routines and technologies required to implement an over-all system of the type outlined already exist but are too expensive for immediate general application. The trigger that releases the will, and the controlled imagination, to actually realize a practical and viable system will probably be a combination of labour cost and labour shortage. The latter may result partially from the demand for more "interesting" work.

Allied to this automated system of distribution will be changes in the insurance, credit and advertising industries. As the data banks will contain competitive material, truth in advertising will become mandatory because any producer-influenced exaggerated claims for a particular product will only discredit the system, the producer and all his other products.

In the public area, apart from the inevitable growth of data-processing systems and the computerization of bureaucracy, there will be an increasing demand for far less labour-intensive methods of education, health care, environmental protection, law enforcement, mass transit and communication.

Big Brother — A start has already been made in some of these areas but in others progress may demand changes in established social attitudes and beliefs that will be basically reflections of vested interests. The extensive use of computerized learning aids in education, for example, will require teachers to abandon many of their traditional roles in favour of being treated as resources. The problem of how people can be persuaded to abandon automobiles for mass-transit, particularly in those parts of the world where the auto-

mobile is a way of life, will have to be solved and, to many people, the use of remotely-controlled TV cameras for street surveillance in an automated system of law enforcement raises images of *Brave New World* and *1984*.

But the choice is clear. If rising labour costs preclude provision of services at a level that society considers adequate, then alternate, automated methods of providing those services will have to be accepted. The charge that such systems will be cold and impersonal need not prove true if the rule of management by exception is applied to ensure that scarce, high-priced human resources are applied where they are most required and where they can be most effective.

Strategic and tactical collection and use of capital — In many respects this category represents those industries that will provide the type of services presently provided in Britain and Europe by the so-called merchant banks, in the United States by venture capitalists and, to a certain extent, by large multinational corporations. However, with the possible exception of venture capitalists, all these institutions will undergo varying degrees of change during the next 30 years.

It is more than likely, for example, that current U.S. anti-trust legislation, which effectively prevents

the days of wholly-owned subsidiaries with U.S.-style management responsible only to the corporate head office are probably numbered

U.S.-based banks from providing certain services, will be found in a post-industrial environment to be too restrictive. Amendments of this legislation would allow these banks to participate more effectively in putting capital to work in the most profitable places around the world — which is what is being done presently by the large multinational corporations, particularly those based in the United States. At the same time, these corporations will decline in importance. Their methods of operation have already aroused considerable concern and resentment in many countries and it is questionable that the majority are sufficiently flexible to realize that the days of wholly-owned subsidiaries with U.S.-style management, responsible only to the corporate head office, are probably numbered.

In the future, any exporting manufacturing industry will need to consider local susceptibilities very carefully, and a wide range of joint venture systems and mechanisms will probably emerge. The essential requirements will be maximum flexibility and maximum possible local participation. Licensing agreements, semi-private and semi-public companies all will be used to achieve the main objective of getting production flow back from the development areas at a profitable price. There will be enormous demand for the services of organizations capable of handling, to the mutual satisfaction of all parties, the complex negotiations and financial horse-trading that are essential preliminaries to such ventures.

Banking — It appears likely also that debt financing — essentially the renting of capital — will become the usual method of financing innovation and expansion. This development again will favour banks rather than brokers.

Increasing affluence in the richer countries of the world, leading to larger disposable incomes, will probably result in increased demand for more imaginative "normal" banking services. The beginnings of this trend are already apparent in the packages of preferential services, such as personalized cheques, low interest loans and safety deposit box rentals that some Canadian and U.S. banks now offer for a small monthly charge. Persistence of this trend will lead to financial institutions developing specialized marketing skills in order to attract the funds required to sustain this type of operation.

One obvious method of attracting deposits, for example, might be to pay daily interest on funds repayable on demand. But customers would have to be willing to deal with automated tellers. This could easily lead to 24-hour service, seven days a week. Already some banks in Canada are installing, in selected areas and on a trial basis, machines that dispense cash in $25 lots against either bank account or Chargex number.

In many European countries "gyro" services are already being offered. These services, usually operated by the Post Office, automatically debit and credit the appropriate accounts upon receipt of the proper instructions, without the need for writing and mailing cheques.

debt financing will likely become the usual method of financing innovation and expansion

The demand for the combination, extension and improvement of this type of service — leading towards a society in which cash, cheques and perhaps even bills are seldom used — will provide much of both the market and the stimulus for the activities outlined in the previous section.

Packaging and transmitting expert knowledge — In a special survey on the future of international business which appeared in the January 22, 1972, issue of the *Economist*, Deputy Editor Norman Macrae wrote: "As a prototype for the most successful sort of firm in 30 or 40 years' time, it may be most sensible to visualise small groups of organizers of systems designers, all living in their own comfortable homes in pleasant parts of the world and communicating with others in the group (and with the systems designers) by picturephone: arranging for the telecommunications of the latest best computerised learning programme on how to make a better mousetrap (or, more probably, how to make the next-successor-but-five to integrated circuits) rooftop to rooftop to about 2,000 quickly trainable, even if only newly literate, workers assembled before their two-way-teach-in computer terminals by some just tolerably efficient organising sub-contractor (also taught by long-distance telecommunicated computer lessons) in West Africa or Pakistan."

Just over a year later, referring to this prediction, he wrote: "I am

now totally convinced that I underestimated the speed of advance. This sort of transglobal teach-in will become a common industrial practice well before 30 or 40 years are up."

The scenario depicted by Macrae may well be an end result of the emergence and growth of the type of industry that will have its beginnings in demands for learning systems to meet the closely related twin requirements of education and industrial training. These systems probably will be mainly computer-based, but TV systems — both conventional broadcast and close-circuit — as well as all other types of audiovisual aids will be required also.

The potential of computer-based learning systems has been obvious for many years, but the field of educational technology so far has seen many more failures than successes.

In North America three reasons generally are given for the numerous failures: 1. fragmented nature of the market — a multiplicity of individual local school boards, colleges and universities of varying degrees of independence; 2. peddling of worthless, gimmicky programs and equipment by some companies — due, in many cases, to ignorance rather than a deliberate intent to defraud — which tended to bring the whole field into disrepute; and 3. lack of imagination on the part of many teachers, educators and administrators.

Warning signs — Each of these problems exists in varying degrees but indicators of significant changes to come are apparent already. The rapidly escalating costs of education, dissatisfaction with the end results of education and mounting opposition to annual tax increases have, for example, forced authorities to the realization that present teaching methods are labour-intensive and, therefore, will become increasingly expensive with time. The dedicated teacher is becoming more and more concerned about the tensions and frustrations created for children at both ends of the spectrum by attempts to achieve a median pace of progress in classes that are continually increasing in size and thus becoming more diverse in individual learning patterns. Finally and, perhaps, most importantly — the supremacy of local autonomy in education is being questioned seriously.

All this adds up to a climate of willingness to accept in education imaginative approaches to the problems of reducing costs and creating meaningful individual learning programs. As John Diebold, a well-known U.S. management consultant and computer expert, wrote in his book, *Education, Technology and Business:* "Before the end of the 1970s, billion-bit computer memories will be relatively common, and it will be possible for a machine to keep records of every student's responses to key questions in instructional programs. Thus each child's learning patterns will be discoverable and sequences of instruction can be made truly individual. Set in a heuristic configuration, drawing from recorded responses by other children with similar difficulties, the computer could by itself check out alternative ways of overcoming or circumventing the student's difficulties, vastly improving the efficiency of the energy the student applies to his education. In a very real sense, students in a future automated classroom would make the system serve their own needs and desires as no merely human system ever can."

Need for learning systems — The underdeveloped countries need economical and effective solutions to their problems of illiteracy and shortages of modern skills. There will be increased demands from these countries for learning systems. Education is a scarce commodity in a poor country and it is unlikely that those who have it will be willing to live and teach where the need is greatest. But if the people who live in such countries are not able to acquire at least basic reading and writing skills, they stand very little chance of improving their way of life. Possession of these skills will not guarantee such improvement but the lack of them almost certainly will guarantee that there will be no improvement.

The requirement for learning systems for industrial training programs is in many ways similar to the requirements of the underdeveloped countries in that the objectives are effective results at minimum cost in time and money. These objectives assume particular significance where retraining is involved and it is now accepted generally that, in the future, the planned allocation of adequate resources to this activity will be mandatory if proper use is to be made of the available labour force.

These industrial systems could also have an impact on underdeveloped countries. To date the tendency has been for labour-intensive manufacturing operations to be exported only to countries where the teaching of required skills has not been too difficult or too expensive. The rate at which wages are escalating in many such areas, such as Hong Kong and Singapore, means that before long these processes, if they are to remain profitable, will have to move to countries where the time and cost required to teach the necessary skills using traditional techniques are not prohibitive. Automated heuristic, computer/cassette, prepackaged learning systems could be the answer.

Many of the advances outlined here may depend for their further realization upon cheap and reliable telecommunications systems. Such systems will result from significant reductions in the costs of building and launching communications satellites, accompanied by the development of transmitters and antennas permitting coherent radiation in highly directional narrow beams. Technological success in both these areas within the not too distant future is quite possible. The problem will then be to prevent public and private telecommunications monopolies all over the world from protecting earlier investments in less efficient and more expensive plant and equipment.

Advanced Technology — The report of the Senate's Special Committee on Science Policy, and several recent Science Council publications,

have resulted in considerable attention being focused on the problems of technological innovation in Canadian industry. It has been suggested that one of the prime reasons for our poor record in this regard is that many Canadian companies are subsidiaries of foreign-controlled transnational corporations. Many well-qualified authors have explored this theme, and the resulting inhibitions and constraints have been forced on Canadian industry in great detail.

In broad terms, nearly all of them have concluded that the solution is the development of an autonomous domestic capability for innovation in general and technological innovation in particular. But there appears to be little agreement on how this is to be accomplished and what sectors of industry should receive this preferential treatment, although terms such as "high technology" and "science-based" are frequently used.

Care of resources — Because our resources — particularly money and suitable man-power — are finite it is obvious that great care will need to be exercised in both the selection of those industrial sectors chosen for encouragement and the development of the criteria upon which such selection will be based.

Experience has demonstrated clearly the comparative failure of past attempts by successive federal and provincial governments to aid Canadian industry on a broad front, but, if we are to switch now to in-depth support on carefully selected, much narrower but far more well-defined fronts, the total costs and benefits — including social costs and benefits — of various alternatives will require thorough investigation and evaluation.

In broad terms, the areas of particular interest within the "worker" industry segment, so far as advanced technologies are concerned, are energy, transportation and materials. It must be emphasised that there is a considerable degree of inter-dependence both between these three areas individually and between these areas in total and the subject of the next section, "Construction and civil engineering".

It is fairly obvious, for example, that a high degree of competence in nuclear power generation demands a similar competence in the processing — from basic raw materials through fabricated assemblies — of the exotic alloys and composites used in the construction and application of nuclear reactors. Similarly, to encourage the design, development and construction of novel, mass-transit systems, both intra- and inter-urban, without considering the source, transmission and distribution of the required energy form could be highly dangerous.

there will be a tremendous increase over the next 30 years in the generation and consumption of electricity

Although it is extremely difficult to define with any precision those areas of industry involving advanced technology that should be accorded first priority within the limits of available resources, it is easy to outline areas that should *not* be considered for such preferential treatment.

Light aircraft — It is doubtful, for example, that Canada could ever attain a competitive position in the world market for heavy commercial jet aircraft. On the other hand, although light aircraft registrations in Canada are second only to those in the United States, we have no light aircraft industry worthy of mention, despite increasing affluence and leisure, our new found interest in our Arctic regions and a potential military requirement for remotely piloted vehicles. Similarly, the transportation needs of our northern territories could have provided us with a competitive edge in the development and use of air cushion vehicles for a comparatively modest investment.

Basically, it would appear that we must seek our future technological opportunities, not in enormous projects of dubious validity requiring massive investments of capital and lengthy pay-back periods, such as fusion or breeder reactors, but as the suppliers of highly specialized technologies and products necessary to the success of such projects. Because the world must be our market the products must be small, lightweight and highly valuable and the technology must be of a quality and price that makes it desirable to potential foreign licences.

for the next seven to ten years job creation must be accorded high priority

Increasingly such technologies and products will tend to cut across established industrial boundaries and academic disciplines. Bio-medical engineering is a typical example and one that is probably of growing importance. Already drug and pharmaceutical manufacturers are moving into this area — probably, in part, to protect their established markets, although ever-increasing health care costs are causing serious concern.

Need for electricity — Wherever possible we must build on the skills and capabilities we already possess. Mainly because of environmental and security-of-supply considerations, there will be a tremendous increase over the next 30 years in the generation and consumption of electricity. This could be a prime technological opportunity for Canada as we already have the CANDU reactor, which is well regarded by such eminent authorities in the field as Edward Teller.

Furthermore, because it is unlikely within this time span that generation by other than rotating machines will become a reality, we will either have to develop, or import to meet our own needs and requirements, the technologies and equipment appropriate to HVDC and HVAC/DC systems, cryogenic and superconducting cables and large, probably superconducting, machines, particularly AC generators.

industries that do not at present exist may represent a significant faction of tomorrow's total industrial activity.

Our climate could also provide impetus for technological innovation. Almost every major city in the country devotes a considerable portion of

its tax revenues to snow removal and repairing winter damage to road surfaces but little thought appears to have been given to heated roads and covered walkways for pedestrians, although a start has been made on the use of insulating materials in highway construction.

Cars designed for Canada — It is well known in the automotive industry that our winters, combined with Canadian driving habits and the liberal use of salt to melt ice and snow, constitute what is probably one of the world's toughest environments for automobiles. But we continue to rely on designers and manufacturers whose prime concerns are the wide open spaces of California and the U.S. South-West; the crowded streets and high cost of gasoline in Tokyo; the narrow winding lanes of England, and the fads of a small but wealthy group of continental Europeans.

the problem of how people can be persuaded to abandon automobiles for mass transit will have to be solved

The answer has always been that the Canadian market is too small to support a line of vehicles designed for its specific requirements. However, this argument is already beginning to lose its validity. Our cars now cost more both to buy and to operate because they are equipped with anti-pollution devices of questionable efficiency designed basically to meet the climate and atmospheric conditions peculiar to the Los Angeles area. Has anybody taken the trouble to find out whether the Canadian consumer is prepared to pay the extra amount required to obtain a car suited to his real needs, rather than the least that can be done to modify a basic design intended for use elsewhere, or for a car that would provide reliable economic service for up to 10 years?

As a side benefit, perhaps the production of vehicles of this type would provide far more rewarding employment than does the current mass-production assembly line. It would certainly save energy. Professor Stephen Berry of Chicago University has shown, by means of a network analysis in terms of the materials and energy requirements of the entire production process, that of the 32×10^9 calories used to make a Detroit automobile only 6×10^9 are theoretically necessary. Even if this theoretical requirement is doubled to allow for conversion inefficiencies the wastage is still more than 60 per cent.

Service criteria — Another fertile field for technological innovation is service. In terms of hours worked, large consumer goods in this country are becoming cheaper and cheaper but the cost of servicing these goods is steadily increasing. There are many reasons for this. The labour content is high; the goods are increasing in complexity and in most cases the skills, training and capabilities of the personnel involved have been overtaken by the increasing complexity. How many auto mechanics, for example, properly understand the workings of anti-pollution devices and how many TV repairmen have been adequately trained in the systematic location of deficiencies in a colour TV receiver using many solid state devices?

Servicing criteria must become as important in the development of the original design as production cost. These considerations probably will result in the eventual disappearance of the independent retail servicing of products such as automobiles and colour TV receivers in favour of properly staffed and equipped service centres, organized and managed by the manufacturer, that loan temporary replacements to permit orderly and efficient use of both manpower and equipment.

exporting manufacturing industries will need to consider local susceptibilities very carefully and a wide range of joint venture systems will probably emerge

Such considerations can be extended to preventive medicine and similar fields, as already discussed under "Systems design/capital intensification". In fact, there is a close link between advanced industrial technologies, and what — for the purposes of this article — have been called the management industries. Those industries will depend, to a certain extent, upon the availability of advanced hardware, but of even more importance will be the question of social attitudes towards technological change. A positive, but flexible, response in this area will obviously have far-reaching implications for industry as a whole.

Construction and civil engineering — The need for continuing strong capability in these areas is obvious because every major project will continue to require these skills and services for its succesful realization. But materials and techniques will provide ample opportunities for technological innovation. The price of steel is already a cause of concern, and undoubtedly will force a search for suitable replacements for both conventional girder and reinforced concrete construction.

As congestion and pollution in downtown areas increase, low-cost tunnelling techniques will assume more importance; better planning and scheduling will be required; and methods will have to be found to eliminate, or substantially reduce, the problems of on-site noise, dirt, and material delivery and removal.

Urban planning — It is likely also that urban planning during the next 20 years or so will move closer to the construction and civil engineering industries so that the planners can take advantage of improvements in methods and materials and so that the builders can be more responsive to social needs. At present, high rise commercial buildings are being erected in downtown areas with little attention to how people reach them, to delivery and removal of goods and materials, or to whether conventional methods of servicing with electricity, water, sewer, gas and telephone lines are desirable, economical, or efficient. The arrival of intra-urban, high-speed, mass-transit systems will accentuate these problems and the growth of self-contained, total energy systems — probably incorporating garbage disposal facilities, wastewater treatment re-use systems, per-

haps even sewage treatment systems, in large commercial and residential buildings — seems practically certain.

Pop culture and other "exotic" industries — This group of industries includes, but is not limited to, entertainment, the design and manufacture of both high-fashion and pop-fashion clothing; the manufacture, packing and labelling of expensive foods and beverages; the travel recreation and leisure industries; and those industries, such as furniture design and manufacture, that have a direct impact on family life styles.

Increasing affluence, particularly in the younger age groups of the population, is almost certainly bound to result in increased spending in these areas and it is probable that such spending will be marked by increased consumer sophistication.

successful technological innovation places a premium on controlled imagination and creativity

Because there is a "fad" element in all demands made on this type of industry the normally incompatible problems of product diversity, short production runs and low unit cost will require novel solutions that can only result from a combination of advanced technology and the design and application of systems aimed at a substantial reduction in the labour content. International competitiveness in these areas will demand an unusually high degree of originality and innovative capability but our domestic markets could be protected by ensuring that both quality and the range of choice is satisfactory.

With time, as ventures in these fields are highly speculative, the desirability of devoting scarce resources of imaginative and innovative manpower to these industries may be questioned. On the other hand there will always be a certain number of Canadians seeking opportunities to capitalize on their artistic talents and it would be unfortunate for the future of this country if they were forced to emigrate to seek such opportunities.

Conclusion — This article has attempted to outline in broad terms the classes and types of industry that appear to promise, over the next 30 years, the growth potential required to satisfy Canadian expectations on a wide front during that time.

Because it is almost impossible at present to define these expectations in quantitative terms the translation of the qualitative assessments presented in this paper into reasonably hard estimates of total costs and total benefits may also be impossible. But it may be possible to better define our economic and technological opportunities.

Agriculture and animal husbandry were deliberately excluded from this article as traditional techniques in these areas will probably change very slowly. However, it is of interest to speculate on two possible future applications of industrial-type technologies to basic food production that could result in substantial changes.

The first such application is hydroponics — the growing of plants in solutions containing the required minerals and nutrients, instead of in soil. To date the costs involved in this type of cultivation have been too high for its successful large-scale commercial exploitation but given continued increases in farm-gate prices, in transportation costs and a limit to the world's potential arable land there is no doubt that it will eventually become economically viable. Furthermore, because the beds are usually housed in greenhouse type structures under controlled climatic conditions there are no losses due to the weather; working conditions are considerably improved and harvesting can be a year-round operation.

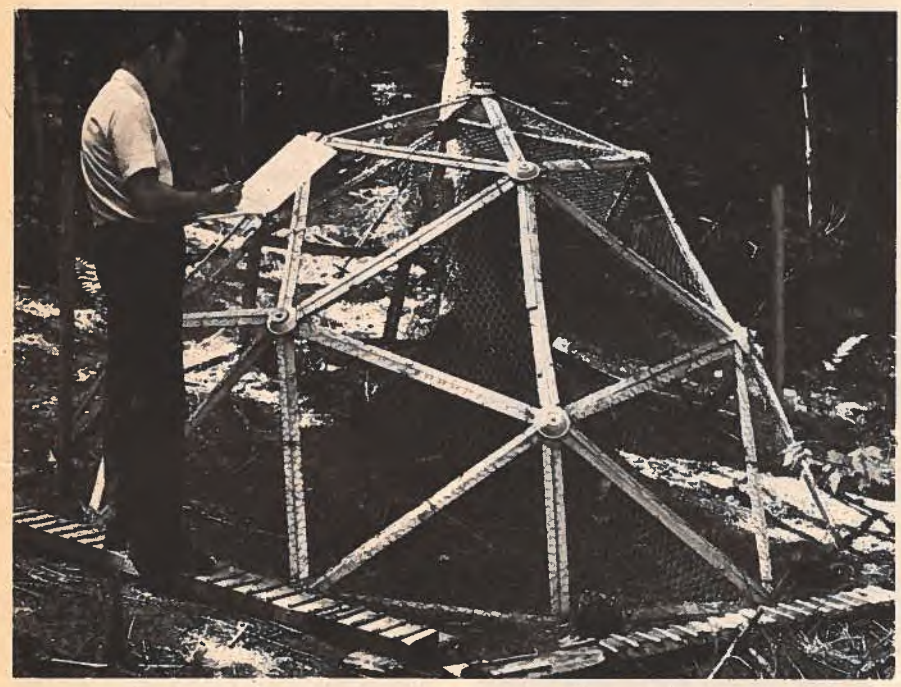
The second application involves the use of cattle boats as floating feedlots to move young cattle from the range lands of the underdeveloped countries, where they have a most precarious existence, to the lush pastures and commercial feedlot operations of Japan, Europe and North America. Any genetic shortcomings these cattle have as converters of good-quality feed into the lean meat that modern urban customers seem to prefer could easily be remedied by skilled breeding and artificial insemination.

Common to all the areas discussed in this article is the fairly obvious conclusion that successful technological innovation places a premium on controlled imagination and creativity. In the past, Canadian industry has shown little interest in acquiring and encouraging such talents and our educational systems have not, on the whole, displayed any notable interest in their development. Fortunately there are indications that at least some segments of industry are changing their attitudes in this respect, but much remains to be done if we expect to realize the full potential of our future.□

The Canadian Forestry Service

In the days when *Canada Commerce* was first published, the forests of Canada were the nucleus of our economy. Even today our forests rank among our greatest natural assets. Close to 300,000 Canadians are employed in the logging, pulp and paper, sawmilling, wood-using and paper using industries. The products of these industries account for almost 20 per cent of the total value of our exports.

Despite its vastness, almost one million square miles, Canada's forest resource is not unlimited. The forests of Canada, and the problems facing those who manage them, are the concern of the Canadian Forestry Service of Environment Canada. The primary function of the Canadian Forestry Service is one of forestry and forest products research and related serv-



A Canadian Forestry Service entomologist records progress of a colony of ants under a protective dome. Predators of other insects, the ants are being studied to evaluate their effectiveness as a control agent against forest pests.

At a Canadian Forestry Service field station, colonies of a defoliating insect on aspens are isolated in a "sleeve cage" in order to study their behaviour.

ices. Management and protection is the concern of provincial governments. In addition to research carried out in its own establishments, the Service supports programs of research at a number of Canadian universities and private research organizations.

Canada Commerce has received a number of publications from the Canadian Forestry Service for the purpose of passing on to our readers this brief sketch of the service, some information about its publications, and how those of you connected with forestry and allied industries might benefit from the service, if you do not already do so.

The Forestry Service's catalogue, "Lists of Available Publications", contains details on close to 100 publications released during the past four years. These range from general information and education pamphlets, to regular publications and research reports on topics such as silviculture, economics, inventory, fire, entomology, pathology and forest products. This catalogue, which is being revised, is available from the Enquiry Centre, Information Branch, Environment Canada, Ottawa, Ontario K1A 0H3. The Centre will also provide information on publications issued in previous years.

Apart from the catalogue, of particular interest to our readers in the forestry and related industries is *Bi-Monthly Research Notes,* which contains information on research in progress at the Canadian Forestry Service. This publication is issued free every two months.

Another interesting publication is *Forest Resources and Utilization in Canada to the Year 2000,* (publication number 1304) not only to those in the industry, but for any of our readers who might be interested in, or involved with, any form of long-range planning. This volume covers projections on domestic consumption, exports, supply, production limitations and forest depletion.

The Canadian Forestry Service has, over the years, been involved with extensive research of benefit to the industry — research that continues. It has available a wealth of information, well beyond the publications in its current catalogue. If you want to find out more about the Canadian Forestry Service, just write to the Public Information Unit, Canadian Forestry Service, Environment Canada, Ottawa, Ontario K1A 0H3.

Apparel Industry Takes Off

This is one of the dresses shown at the International London Fashion Fair by a Montreal firm, whose exhibit also included short dresses, trousers, shirts and pants.

BEN DWORKIN, Information Service Branch

The rise in exports of the Canadian apparel industry over the past 10 years has been an astonishing 860 per cent, from $13.4 million in 1963 to $115.3 million in 1973. Obviously the main cause of this rise has been the efforts of the industry itself, but a lot of help has been given by the various branches of the Department of Industry, Trade and Commerce.

The chief of the Apparel Division of the Department, Harry T. Sherman, sent a note earlier this year to Canadian trade posts around the world. In it he complimented the posts, other branches of the Department and, of course, the industry on the team work that achieved such spectacular results. "The year 1973 is one that will be long remembered by those of us involved in assisting the clothing industry in maximizing its export potential.

"Ten years ago total exports of Canadian-made clothing were $13.4 million. In 1967, the year before our export marketing program was launched, the figure was $27.9 million. Exports in 1973, year six of the program, exceeded the $100 million mark for the first time. The actual figure was $115.3 million, an increase of 25.2 per cent over 1972. Markets now being actively developed are the U.S., Britain, the EEC and Japan.

"Early indications are that 1974 will be another year of solid progress."

It has been no accident that popularity of Made-in-Canada apparel in stores in the United States, Britain, the Netherlands, Japan and elsewhere has kept pace with the promotional efforts of the Department.

The big drive started in New York in November 1968 when Canadian manufacturers, under the sponsorship and urging of the Department, launched their first showing at the McAlpin Hotel in New York. Seventeen firms participated, with Canadian-made women's rainwear the major attraction.

It was a bread-and-butter operation on a limited budget. There were no fancy fashion shows, or receptions, or gimmicks. The Canadian firms took over a portion of the seventh floor of the hotel and set up shop. A few hired models, but for the most part they hung up their apparel on racks in the traditional manner and waited for customers.

The success in attracting buyers rested almost entirely on a publicity

program. The theme at the time was "Canada is *IN* fashion". Full page colour advertisements were placed in the major trade papers, and flyers carrying the Canadian theme were mailed to 15,000 major buyers across the United States. Co-operation by all of the U.S. posts supported the effort.

It worked. More than 1,000 buyers, representing the who's-who of the merchandising world, attended. And they placed orders worth about $2 million.

From that time until the most recent show in April it has been a story of steady progress. More than 300 Canadian apparel firms were introduced into the American market. About 50 companies now have offices in New York, and several hundred have engaged full-time agents.

However, putting all of the apparel in one market was not part of the long-range plan and the Department has since diversified, with special attention to the British buyers.

Since the first of this year alone there have been three department-sponsored shows held in Britain: Men's Wear (IMBEX) at Earls Court, London, early in March; the Junior Fashion (children) show in London in late March, and the Canadian participation in the International Fashion Fair in London in early April.

It has not been a glory story all the way. The participation in the Fashion Fair was the Department's third attempt into breaking into the British market. The first two were solo shows which had worked well in New York but were disappointing in London. However, the results of the Fashion Fair in Earls Court in April was encouraging and the Canadian manufacturers see signs of real success in attracting British buyers to their women's apparel.

The men's wear and children's wear shows brought instant results, with several million dollars worth of business transacted on site at both of these events. It was the fourth showing of children's clothing, where the makers of children's wear had already made their mark on the market.

But the men's wear showing of IMBEX was the first in some years. The following comment in the prestigious *Manchester News*, a newspaper of about one million circulation published in the heart of the textile district, tells its own story. The story appeared on the front page with the heading "Textile Invasion from Canada". It read in part:

"The presence of Canadian clothing companies in the U.K. market is somewhat surprising, to say

Nine Canadian firms exhibited their wares at the London show last April under the sponsorship of the Department of Industry, Trade and Commerce. This skating coat in imitation suede was displayed by a Calgary firm.

the least. Wages in the Canadian textile industry are three to four times as high as in the U.K.

"The rates of exchange in sterling and the Canadian dollar are an additional hurdle. Yet the prices quoted at IMBEX were competitive.

"How do Canadian clothing companies manage to overcome the high labour costs and the exchange rates?

"The answer appears to lie in substantial capital investment. High efficiency standards make up for the high labour costs — it's a high-wage, high-cost capital-intensive industry.

"Secondly, living in the shadow of America, Canadian companies have to be flexible. Since they cannot afford to beat the American giants in big runs, they have to seek out market designs by market versatility.

"Canadian companies, quite rightly, are hoping to establish an international textile presence on the back of this design capability."

One of the real success stories at IMBEX involved a Canadian knitting firm that made substantial sales of men's sweaters to London stores, made of wool imported from England!

United States will probably remain the major market for Canada, but the percentage increases of late have been in the European areas, which in itself is encouraging.

Looking back over the last six years or so, the apparel experience has been a Cinderella story come true. Manufacturers and Department officers alike know one thing for certain. It is only a start. A promising future lies in store for Canadian apparel — women's, men's and children's.

This New York model (left) displays a hat by a Montreal firm and fur coat by a Toronto firm. Both companies were at the solo Apparel Show earlier this year in New York. These shows have been sponsored twice a year for the last seven years by the Department of Industry, Trade and Commerce. On the right, a co-ordinated look from a Vancouver firm is displayed by a model in Gramercy Square.

FOOD FOR THOUGHT

These items were obtained from the Department's in-house publication, *Technology Monitoring Journal,* **and from the Orba Information Limited publication,** *Changes.* **The Department accepts no responsibility for their accuracy.**

British Airways plans to introduce services to four points in Western Canada — Vancouver, Edmonton, Calgary and Winnipeg — mainly to promote tourism between the area and the 90 points it serves in Europe.

Globe and Mail

Development of the power potential of the Bay of Fundy tides is technically feasible, financially practical and will happen a lot sooner than many people imagine.

Edmund de Rothschild, Chairman, N. M. Rothschild and Sons Ltd., London, England, in a speech to the Halifax, Nova Scotia, Board of Trade

Noted U.S. author Alvin Toffler believes that TV advertising bombards the brain to such an intolerable extent that the public react with a hatred for advertising. If advertising is to be effective in the future, it needs to assume more responsibility and be able to predict the future adequately. The average American notices only 76 of the 560 commercial messages he is exposed to daily.

Advertising Age

The Wall Street Journal reports that growing numbers of American advertisers are using comparative advertising to boost sales. Carte Blanche and Avis Rent-a-Car are two companies who have grabbed larger market shares by using ads that point out their advantages over major competitors. The U.S. Federal Trade Commission believes that comparatives allow for a healthy debate, and steer away from the "Brand X" ads' ambiguity.

Wall Street Journal

Bell Canada repairmen found 38 taps on telephones in Ontario during 1973, and have already found another 10 this year. Most of the taps were found by accident, or after customers called the company to complain of problems with their phones. A Bell spokesman said a new bugging device is being used that picks up both ends of a conversation as long as the bug is within 8 feet of the phone. The device even works through walls.

Toronto Star

Soybean prices have soared in recent months and agricultural experts believe the bean's popularity will continue to increase due to a worldwide protein shortage.

The Futurist

Possibly the healthiest and most lucrative market in the world — except for the oil market — is the art market. Public scepticism concerning the more conventional forms of investment has boosted the demand for works of art and hence their prices to a positively shocking degree. Not only have prices risen astronomically, but so has the volume of trade. Between last October and December, Sotheby's worldwide sold some $100 million worth of art goods — a 50 per cent increase over the same period in 1972. Turnover at Sotheby's and Christie's has more than doubled in the last 16 months.

The likelihood is that given present conditions there will be no definable limits to art market growth. However, there is a danger, especially in the U.K., that public opinion will turn against the close association of art with money. In such an event, it is likely that the Labour government will take the opportunity to introduce harsh tax measures which would have a disastrous effect on art dealing.

Financial Times of London

There is a nation-wide boom in corporate art collections, according to Business Week. No longer able to limit themselves to the time-darkened likeness of "Our Founder", U.S. big business is going in for the serious side of art collecting. Chagalls and Dubuffets are finding their way onto boardroom walls. A recent Boston University study uncovered the general concensus that art improves environment, boosts productivity and corporate pride. It also appreciates steadily in value.

Business Week

McCain to open new plant in Netherlands

McCain Foods Limited, Canada, will open a $9.1 million potato-processing plant in Lewedorp, the Netherlands, some time next year. The plant will eventually employ 600 people in producing a range of potato products, including frozen French fries, potato specialties and dehydrated potatoes.

Dr. George McClure, managing director of McCain Europa, says that the company has existing and expanding markets in the Netherlands, West Germany, France, Belgium, Italy, Australia and Switzerland. The potato handling and processing facilities being constructed will be the most modern of the type in the world. It is expected that McCain Europa will become an important part of the economy of the southwest Netherlands and the plant is located in one of Western Europe's largest potato growing regions. At capacity, it will require 200,000 tons of potatoes a year.

The announcement of the Netherlands plant followed by less than a month the announcement of the $5.3 million first stage of a complex at Ballarat, Australia. This project involves three stages over the next six years. McCain Foods Limited has 3,500 employees in eight plants in Canada, England, Australia and the Netherlands.

From the Librarian's Desk

Here are more of the recent books of interest to the Canadian businessman that have appeared on the Department's library shelves. If you are interested in reading any of them and they are unavailable from your own library, ask your local librarian to borrow them from us through the inter-library loan system.

Balogh, T. Fact and fancy in international economic relations; an essay on international monetary reform, by Thomas Balogh in collaboration with Peter Balacs. [First ed.] Oxford, Toronto, Pergamon Press [c1973]

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Seldon, J. Microeconomics and the Canadian economy [by] James Seldon [and] Paul Phillips. Toronto, D.C. Heath Canada Ltd. [c1973]

Summers, G. W. Basic statistics in business and economics, by George W. Summers and William S. Peters. Belmont, Calif., Wadsworth Publishing Co. inc., c1973.

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Taylor, L. D. The inflationary process in North American manufacturing by Lester D. Taylor, Stephen J. Turnovsky and Thomas A. Wilson. Ottawa, Prices and Incomes Commission, 1973.

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Help Wanted

The staff of *Canada Commerce* and the Trade Commissioners who provide the bulk of our articles take considerable time and effort to prepare each issue. We believe that *Canada Commerce* is a meaningful publication and is of value to its readers. But the view of the reader is an essential part of any publication. Editors and authors must have the views of at least some of the readers in order to provide more effective articles.

We would be grateful to any reader who takes the time and effort to comment, whether the comments are brickbats or bouquets. And we would like to be able to publish these comments — provided, of course, they are printable!

Can you help us?

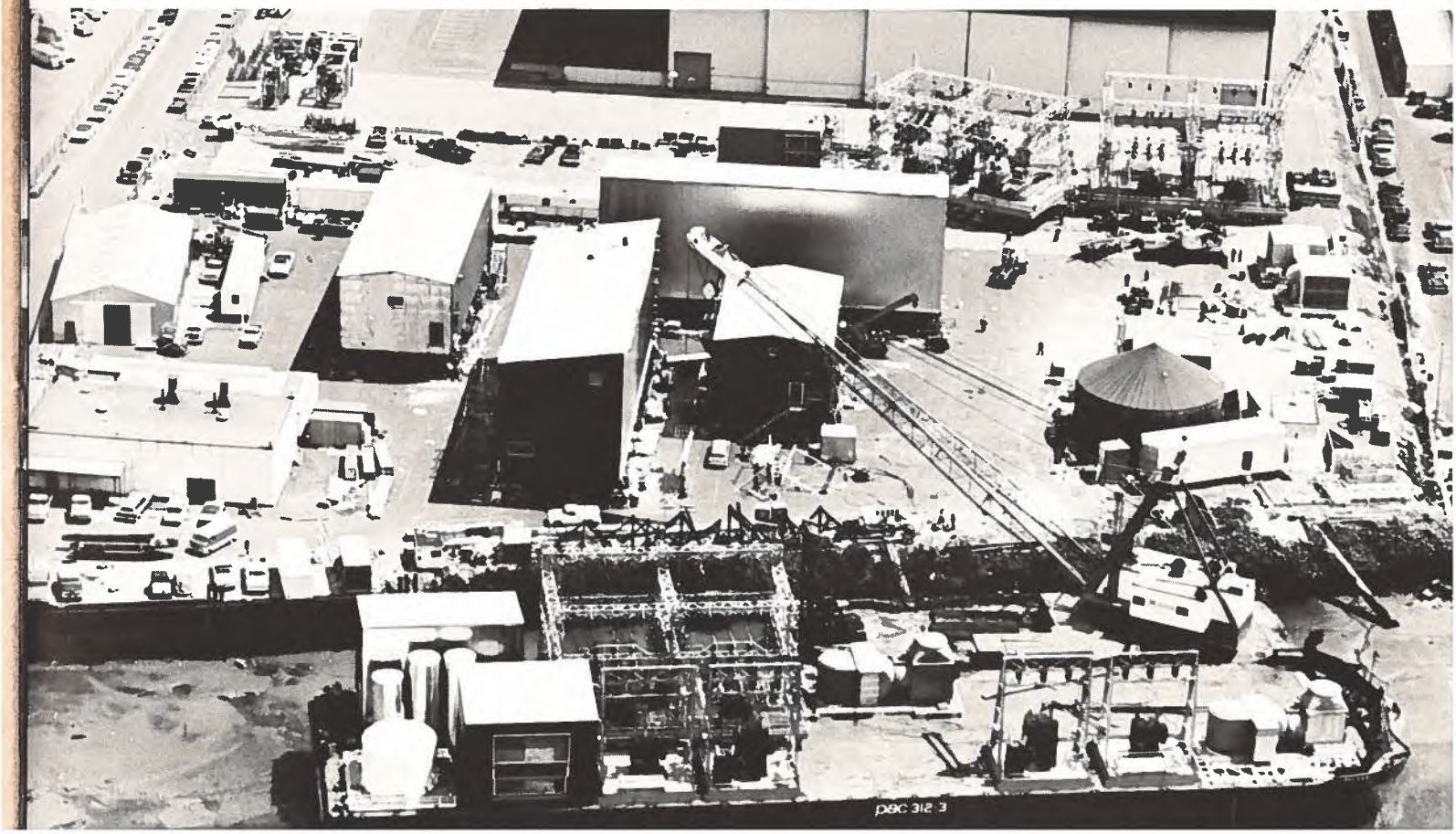
Canadian Expertise Goes to the Arctic

Pioneering engineering feats in the Arctic Circle are helping the Arctic "Oil Rush". Recognition of the vital role which Canadian engineers are playing in such projects came with the presentation of two awards to the Shawinigan Engineering Company Limited, Montreal, for an electric power system, 250 miles within the Arctic Circle, located on the North Slope of Alaska at the Prudhoe Bay oilfield of B.P. Alaska Inc.

Big enough to light a town of 100,000 population, the 140,000 kilowatt system is by far the largest ever attempted so far north — and in building it, the engineers had to solve problems never before encountered. They also had to ensure extreme reliability in order to safeguard production, personnel and equipment under the most hostile environment known to man.

The project consists of a gas turbine-operated power plant, a 69,000 volt 36-mile transmission system, and eight centrally-controlled sub-stations, seen in the above photograph at dockside in Seattle, where they were loaded onto barges and shipped 3,500 miles to Prudhoe Bay.

The awards were made in the electrical category for the power system as a whole and in the civil category for the design of the sub-stations, and were sponsored jointly by the Association of Consulting Engineers of Canada and *Canadian Consulting Engineer* magazine.



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