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## Towards Chinese markets

The Canadian government recently held a market research and export promotion seminar for commercial officers of the People's Republic of China.

The two-week seminar, attended by 25 participants from Peking and from Chinese missions abroad, was held in Hull, Quebec from September 21 to October 1.

The seminar, sponsored by the Canadian International Development Agency, covered a wide range of export-related topics including the organization of a trade commissioner service, personnel selection and management, establishment of work programs and reporting services, joint ventures and financing.

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## Bacteria works on waste

National Research Council of Canada scientists have discovered two bacteria that can help turn wood wastes into useful products.

The bacteria were discovered by Dr. Waheed Khan in Ottawa's sewers. While the microbes will be put to work in fermenters full of wood waste and city garbage, NRC genetic engineers are also trying to splice some of the bacteria's genes into other organisms to improve their efficiency.

When given some wood wastes the two microbes can convert them into methane gas, acetic acid (vinegar), sugars and alcohol which can be made into synthetic rubber and plastics. One of the bacteria also produced extra enzymes that can be harvested and used to turn more wood wastes into sugar.

The microbes called *Acetivibrio cellulolyticus* and *Clostridium saccharolyticum* will be recognized officially when their names are entered in *Bergey's Manual*, the international journal listing every bacterium known.

Dr. Khan said that it took almost four years to isolate pure cultures of the bacteria and to complete the work necessary to have them listed in *Bergey's Manual*.

Dr. Khan and his colleagues are trying to determine how best to exploit the wood-eating microbes, looking for ideal temperature and chemical conditions under which they work best. Eventually it is hoped that they can be put to work in Canada's massive supply of wood wastes, producing chemical feed stocks.

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## Naval nostalgia

An Ontario man is keeping his Second World War days in the navy alive with his travels on a duplicate of *HMCS Haida*, a Canadian destroyer.

Jack Walker, a boat maker from Port Elmsley, took 16 months to make the ship completing it in 1976. Since then he has travelled more than 11,200 kilometres in the 14-metre, three-ton boat, mostly along the Rideau River and the St. Lawrence Seaway. The boat, which is only one-and-a-half metres across, has portholes that are about two-and-one-half centimetres wide.

Walker's hand-made plywood copy of the famous Second World War destroyer also has metal torpedos in the ship's deck, cannons, multiple "pom pom" anti-aircraft guns and a mast-head flying the white ensign. There are also other little touches that make the ship, one-eighth the size of the real *Haida*, seem so authentic. They include tiny life preservers made of plaster, bumpers handwoven from hemp rope and a tape deck player, playing popular music from the early 1940s.

Walker said the vessel has drawn many curious onlookers, especially Second World War veterans. "When we're parked out at night, and the boat is all lit up and you can see the silhouette of the guns on deck, some of these old Second World War veterans swear they were back 40 years ago standing beside the old ship," said Walker.

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## Chips improve telephone system

Northern Telecom Limited of Montreal has developed a new silicon chip designed to improve telephone switching systems.

The new material will make chips currently used in digital telephone switching systems "technologically obsolete", according to a company official.

The new chip will act as the link between a telephone set and the network switching system by filtering and converting voice and data signals which travel through the telecommunications network.

It also monitors the busy or idle state of the set, controls the ringing function and checks the network regularly for maintenance purposes.

Northern Telecom will produce nearly two million of the chips at its Ottawa and San Diego, California plants by 1983.

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## Spiral surgery advance

A doctor at Toronto's Hospital for Sick Children has developed a technique that allows patients to resume a normal life-style much quicker following major spinal surgery.

Using this technique, children, who have undergone operations to correct spinal curvatures, are able to get up and walk around right after surgery. Until 18 months ago they would have spent up to two months flat on a bed then up to a year in a body cast or a brace from neck to hips, said Dr. Walter Bobeckko, chief of orthopedic surgery at the hospital. The difference is the result of six years' research at the hospital by Dr. Bobeckko.

Scoliosis, curvature of the spine, is a common inherited condition affecting mainly girls — 10 per cent of all school-age girls to some degree. If the curve does not progress beyond 15 degrees it is insignificant. When untreated, scoliosis ultimately compresses lungs and heart causing considerable disability.

### Rods attached to spine

Severe scoliosis is corrected by fastening extendable, stainless steel rods to the spine, which straighten the spinal column as they lengthen. Bone from the hip is grafted into the vertebrae, fusing the bones in the spinal column in the area of the rod.

Since the main rod attached to the vertebrae at the top of the curve was too weak to bear any weight, the patient could not stand or endure any weight on the spine until the grafted bone had fused solid — a matter of months. Dr. Bobeckko's advance is a simple series of clamps on the rods which provide complete stability at the tip of the curve. Scoliosis surgery is generally carried out on teen-age girls but the new clamps will make surgery possible for older patients.

### Screening in schools

Newly instituted school screening programs now discover scoliosis before it requires surgery. A major advance devised by Dr. Bobeckko involves implanting a kind of pacemaker to stimulate muscles opposite to the curve every ten seconds during the night making the muscle contract for one second. Each contraction pulls the spine into line. The sleeping child is unaware of the muscle contractions. Pacemakers are only effective if the curvature is less than 40 degrees.