

## Shopping mall amusement park

Alberta's West Edmonton mall, a shopping centre that combines P.T. Barnum with a touch of Walt Disney, is to grow again.

The owners of the monstrous, 320 000-square-metre mall, which already contains a full-sized skating rink, 11 movie theatres, an indoor amusement park, a series of towering fountains and an aviary, are planning a 100 000-square-metre expansion. The plans include hundreds of new stores, aquariums and a water wonderland, including a lake the length of five football fields under a dome.

The amusement park, which already contains a merry-go-round, a swooping pirate ship and bumper cars, is to double in size by 1985 and include a "world-class roller coaster". Rubin Stahl, president of the mall, says firm plans call for a 51-store boutique area to open this March and 250 more stores, construction of which is to begin later this year.

The water wonderland will include an artificial wave machine for surfing, a winch arrangement to haul water skiers across the lake at 40 kilometres an hour and a water slide section.

The mall, already a popular tourist attraction, bills itself as having the country's largest toy store, the largest indoor Macdonald's Restaurant and the largest indoor amusement park.

## Spectrometer for world-wide use

A \$150 000-infrared spectrometer developed at the University of Lethbridge in Alberta may one day be used by astrophysicists throughout the world, Professor David Naylor of the university's department of physics believes.

The device, a one-metre cube of instruments that attaches to a telescope, is under construction at the university. When completed next summer, it will be one of only a handful of broad-band infrared spectrometers in the world, and the only high-resolution device capable of operating in the mid-infrared region of the spectrum.

Spectrometers are used in astronomy to measure radiation emitted by celestial objects. Scientists hope that a better understanding of the molecular state of astronomical bodies will help them learn how stars are formed.

Mr. Naylor, who developed the Lethbridge spectrometer with Pierre Gauthier, a fourth-year physics student, expects to test the device at the Dominion Astrophysical Observatory in Victoria, British Columbia later this year.

It will eventually be used on the 3.6-metre Canada-France-Hawaii telescope and at the US National Aeronautics and Space Administration's infrared telescope centre, both located on the 4 000-metre summit of Mauna Kea, Hawaii's highest peak.

## Soil-less salad

A Métis and non-status Indian association will soon be supplying much of central Ontario with fresh lettuce and tomatoes under an ambitious new hydroponic gardening scheme, according to the *Globe and Mail*.

One greenhouse already has been built about 35 kilometres north of Orillia, Ontario and the lettuce — grown in a greenhouse without soil — is now selling in Midland area stores. Robert Flower, manager of the project, says once production reaches capacity the group will have enough lettuce to supply consumers in the nearby Ontario cities of Orillia and Collingwood.

The lettuce is sold in stores with the roots attached and a small amount of nutrients in a plastic bag. The lettuce continues to grow on store shelves and in refrigerators.

### Prices competitive

Stores in Midland cannot stock enough of it to keep up with demand. The lettuce retails for 99 cents a head, competitive with imported lettuce prices.

Tomatoes may be grown in two smaller greenhouses that will be built within the next two years.

Seedlings are started at one end of a conveyor system and the full-grown plants are collected at the other end. Nutrients dissolved in water run through pipes underneath the plants.

During December, the growing time is ten weeks, but in the longer summer days the lettuce matures in five weeks.

"This will never replace conventional growing," Mr. Flower said. "Some things just do not lend themselves to hydroponics. Lettuce and tomatoes like the cooler temperature here and they thrive."

No pesticides are used in the greenhouse. Mr. Flower said hydroponic gardeners must watch for fungus and mold and get rid of infected plants before the entire operation is stricken.

"The winters here are an advantage from that point of view, as there are fewer spores in the air," he said.

Mr. Flower said the project should be profitable, with 100 000 head of lettuce expected from the greenhouse that just started production.

The growing system used by the association is one of the projects chosen to represent Canadian achievement at the International Exposition of Rural Development in New Delhi, India in 1984.

## Winner of the fourth annual Honolulu Wheelchair Marathon



Rick Hansen of Vancouver, British Columbia breaks his own record by winning the fourth annual Honolulu Wheelchair Marathon with a time of 2:3:21.