

ticle accelerator called a cyclotron — the largest and most complex cyclotron ever built. Among other things, the cyclotron produces mesons, in an intensity one thousand times greater than has ever been done before.

Thus, the project is called a meson factory, or facility — one of three such facilities in the world. TRIUMF, in fact, stands for Tri-University Meson Facility, there originally being only three universities involved.

Mesons are responsible for the enormous forces that bind atomic nuclei together, and beams of mesons can be used to probe atomic nuclei and explore their properties in ways that are otherwise impossible.

### Uses

In the treatment of cancer, mesons have the unique advantage of being able to deposit energy with pinpoint accuracy. A beam can be directed to a malignant tumor inside the body and kill it, with relatively little damage to surrounding normal cells. In contrast, standard X-rays deliver their biggest "wallop" to the skin and normal tissue above the tumor.

The beams of TRIUMF can also be used for non-destructive analysis of materials in fields ranging from environmental protection to industrial process control and forensic science.

The TRIUMF project was built over a period of six years, with the universities putting up \$6 million for the buildings and the Federal Government spending \$30 million for the cyclotron and equipment, through the Atomic Energy Control Board. Of the total budget, 85 per cent was spent in Canada.

Massive concrete blocks shield personnel from the radiation produced by the cyclotron. The dedication ceremony, was held directly above the

cyclotron — on top of almost 16 feet of solid concrete.

Scientists from abroad, including 12 from Britain, five from Japan and several from the U.S. and New Zealand, have brought to TRIUMF ideas and valuable sophisticated ancillary equipment for use by the entire project.

### Labour force

Employment and unemployment in Canada both decreased slightly in December, giving a seasonally-adjusted unemployment rate of 7.1 per cent, down from 7.3 per cent in November. The adjusted rate was 6.0 per cent in December 1974.

The adjusted employment level in December was 9,367,000, down 21,000 from November. The main change was in part-time employment, which decreased by 43,000. There was an increase of 24,000 in full-time employment.

The adjusted unemployment level decreased 21,000 to 713,000 in December. There was little change in unemployment for men 25 years and over but declines for persons 14 to 24 and for women 25 and over.

Without seasonal adjustment, the labour force was estimated at 9,923,000 in December with 9,226,000 employed and 697,000 unemployed for an unemployment rate of 7.0 per cent. For November, the labour force was 9,972,000 with 9,332,000 employed and 640,000 unemployed for an unemployment rate of 6.4 per cent. In December 1974, the labour force was 9,715,000 with 9,118,000 employed and 597,000 unemployed for a rate of 6.1 per cent.

### Provinces

Adjusted unemployment rates for the provinces (with November figures in brackets): Newfoundland 17.1 per cent (18.1 per cent); Nova Scotia 8.2 per cent (8.4 per cent); New Brunswick 11.5 per cent (13.5 per cent); Quebec 9.2 per cent (9.2 per cent); Ontario 6.1 per cent (6.0 per cent); Manitoba 3.3 per cent (3.7 per cent); Saskatchewan 3.2 per cent (4.0 per cent); Alberta 2.7 per cent (2.9 per cent); British Columbia 7.5 per cent (8.1 per cent). Because of small sample size in Prince Edward Island estimates of unemployment are subject to wide error and are not published.

### Tory leadership candidates

At press time, delegates to the federal Progressive Conservative party were preparing to choose a new leader at a leadership convention in Ottawa, February 18 to 22, to replace Robert Stanfield, who was retiring.

Newspaper columnist Douglas Fisher, writing for the *Toronto Sun*, assessed candidates in alphabetic order on February 18. He began each evaluation with the following lines:

"Joe Clark — Brusque, arrogant, quick, industrious, bright, a young 100 percent politician, has a good grasp of political history and issues...."

"John Fraser — Ultra-serious and responsible, almost colourless in his gravity, the most solid, assiduous MP in the group but without dash as a speaker or analyst...."

"Jim Gillies — Came too late to politics from business school; is more lucid (surprisingly) on non-economic issues; too naturally pleasant to go for the jugular...."

"Heward Grafftey — In an odd, veering way the most likeable person in the group; naive, soft-hearted, humane and woolly; prodigious energy...."

"Paul Hellyer — A political fundamentalist and self-conceived messiah. Would create the Hellyer party...."

"Jack Horner — A most uneven performer; can be brilliant but often tunes out...."

"Pat Nowlan — All-Canadian boy, generous, good-humoured, fine sense of fun, undevious, too easy going...."

"Flora MacDonald — My sentimental favourite; a fine woman, she is what you hear and see. Compares with Hellyer and Clark for fitness, stamina and dedication but much less self-regarding than either man...."

"Brian Mulroney — An amalgam of the young John Diefenbaker and the current Bryce Mackasey; oozes ego, emotion, sentiment, blarney and charm...."

"Sinclair Stevens — Almost a composite for worried, aggressive, 'let's-do-something about it' small businessman...."

"Claude Wagner — Cunning, poised, gracious, professional and almost all surface. Keeps a tight rein on a bad temper...."

Results of the election will appear in the next issue.

*Canada Weekly* is published by the Information Division, Department of External Affairs, Ottawa, K1A 0G2.

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*Cette publication existe également en français sous le titre Hebdo Canada.*

*Algunos números de esta publicación parecen también en español bajo el título Noticiero de Canadá.*

*Ähnliche Ausgaben dieses Informationsblatts erscheinen auch in deutscher Sprache unter dem Titel Profil Kanada.*