

fellow-countrymen, the Holy Father said he was convinced, and I quote: 'What unites them is stronger and more important than what divides them.'

#### CANADA A PACIFIST COUNTRY

"And, speaking of the great cause of peace in the world, he added:

'Your country, Mr. Prime Minister, is basically a pacifist country, and we like to think that it will continue, under your leadership, to bring with authority its precious contribution to so vital a cause to the future of humanity.'

"After this most cordial interview, I also had the pleasure of conversing with the Prime Minister of the Italian Republic, Mr. Mariano Rumor, and several of his ministers.

Together, we reviewed the international situation. We also talked about the relations between Canada and Italy. In this regard, we noted the real progress that has been accomplished in the last few years, and we expressed the hope that this progress will continue.

That, in brief, sums up that day in Rome."

#### NRC TESTS SKI SPEED

Tests conducted in Ottawa by the National Research Council of Canada and the Canadian Amateur Ski Association may give Canada's National Ski Team a split-second edge over competitors at the 1972 Winter Olympics at Sapporo, Japan.

Important, and sometimes startling, results were achieved in the tests, which were conducted in a six-by-nine-foot horizontal wind tunnel operated by NRC's National Aeronautical Establishment.

The objective of the tests, called "Operation Sapporo", is to find ways of reducing the "drag", or wind-resistance, experienced by skiers competing in downhill races. Any decrease in drag could result in a corresponding increase in a skier's speed.

The tests were proposed by Jean-Pierre Picher, of Toronto, alpine coach for the Southern Ontario zone of the Canadian Amateur Ski Association. Others involved from the skiing world are Alan Raine, of Nelson, British Columbia, administrative head coach for Canada's National Ski Team; Dave Jacobs, of Montreal, former head coach of the National Ski Team, and Normand Bureau, of Pointe Gatineau, Quebec, of the Pointe Gatineau ski zone.

The tests were conducted on a weekend by a team of engineers from NRC, who donated their time to the project.

The wind tunnel simulated actual drag conditions experienced by skiers travelling up to 80 miles an hour in downhill races. Skiers who took part in the tests wore their own racing equipment and their skis were mounted on a board attached to the wind tunnel's system for measuring aerodynamic forces.

Simulated drag experienced by the skiers as wind generated by the tunnel's fans whipped by them at various speeds was recorded automatically by electronic equipment for later analysis. For the purposes of the tests speeds of up to 111 miles an hour were simulated.

Drag was measured for some 14 body positions, including the "egg" position, a crouch which has proved the fastest riding position for high-speed skiers. Drag created by a skier's helmet, slacks, boots and the skis themselves also was measured.

#### POSSIBLE POSITION CHANGE

Mr. Raine says he thinks these tests have produced a new racing position, a crouch he calls the "DJR" position - named after G.A. Dobrodzicki, an NRC engineer, Mr. Jacobs and himself. He believes this position may shave as much as two seconds a minute from times achieved with the "egg" position.

Since only 9/100ths of a second separated the Gold and Silver Medals during the 1968 Olympics, the "DJR" position could be an important asset to the Canadian team in 1972.

Tests also were made with skiers wearing a streamlined helmet, fairings attached to the back of the leg and boot and with the buckles of the ski boot taped. These tests also indicated that changes in the design of ski equipment and clothing can reduce drag.

#### COMMENTS OF CHAMPION

Olympic skiing champion Nancy Greene said she was delighted to see the National Ski Team and NRC co-operating in a programme to streamline ski-racing equipment.

"I hope there can be the same type of co-operation in other areas of sport so that Canada can be original and not do just what everybody else is doing," she said. "I would like to see such bodies as the National Research Council involved in the design of other sports equipment which could help improve Canada's competitive position in sports."

#### REPORT-CARDS BY COMPUTER

By June of next year, report-cards will be compiled by computer in the Calgary Public School Board's 12 senior high schools.

The board will have its own Honeywell H-200 computer system in January. Meanwhile, rented computer time is being used to work out reports for two schools.

This means a big saving in time for the teacher, since the data-processing equipment will be used to bring the marks of an average of seven different subjects onto a common report-card - a chore previously performed by teachers.

The new system calculates class averages for each subject, selects the honour-role and marked-improvement candidates and posts them on the report. The computer will also identify for the school-guidance department those students whose grades are below a satisfactory level. A confidential list of these students will help school counsellors in follow-up work.

Although educational benefits are the main consideration in using the computer, the cost of doing report-cards in this way, the Calgary board says, promises to compare favourably with traditional methods.