

Toronto will be host to more than 1,500 athletes from 50 countries for the largest such Olympiad ever staged.

Athletes, who will compete in about 12 sports, are classified according to their degree of disability, the largest class being made up of those with varying degrees of paralysis requiring the use of wheelchairs.

Canadians scored impressive victories at the 1972 Games in Heidelberg, breaking three world records and accumulating 19 medals for an over-all eighth place finish.

Machinery imports, 1973

Machinery valued at some \$460 million was imported duty-free by Canadian firms in 1973 under the Department of Industry, Trade and Commerce's Machinery Program, according to the report *Machinery Program Analysis - 1973 Imports*, which was released in October by the Department.

The report is prepared each year to help Canadian machinery producers identify new opportunities for expanding their manufacturing activities in Canada. More than 19,000 applications for duty remissions are received each year under the program, which has been in effect since January 1, 1968.

Each application is reviewed with respect to the needs of machinery-users. When required machinery is not available from Canadian sources, the request for duty-remission normally is approved. However, the more than 900 Canadian machinery-producers are assured of tariff protection when they are in a position to supply the demand. At the same time, machinery-users are made aware of the full range of Canadian production.

Geological maps by computer

Over the past decade, groups of geologists in many countries have begun to specialize in developing systems for providing construction engineers with easily digestible, precise geological information on the sites where they plan to build. One of these is Professor Hugh Grice of the geological sciences department at McGill University, Montreal, who since 1965, has been working on a project that involves the use of computers to produce up-to-date, detailed geological maps.

Collection of data

The prerequisites for such a system are twofold - first, the gathering of all available data and secondly, the storage of it in such a way as to make it easily accessible.

The collecting of information is a straightforward procedure. When Professor Grice began his project, much material on Montreal's geology did exist, especially in the reports and papers of Professor T.H. Clark, *emeritus* professor of geology at McGill. His 1952 report concentrated on the rock formations underneath Montreal and the surrounding areas and another report in 1961 described clays, sand, gravel etc. However, because the maps in these books were drawn at scales of half an inch to a mile, they provide only the most general information to a prospective builder. In addition to these, the City of Montreal, in its preparatory work for Montreal's Metro, drilled many holes and obtained fairly detailed information that was mapped at a scale of one inch to 300 feet. Although these maps provide precise information, they cover only a limited part of Montreal's geography - the areas bordering the Metro lines.

The prime sources of information on other parts of the city were the files of construction companies, consulting engineers and government offices. The process of gathering all this information began in 1972, when the Geological Survey of Canada received money from the Federal Government for a winter works program through which about 40 unemployed geologists and engineers were hired to comb construction and government offices for geological information. Data from about

25,000 drill-holes were compiled and charted on maps. A central library of this information has been set up in the laboratory of the City of Montreal's Public Works Department.

Need for new system

Although this material did serve a purpose, there was a need for a system for the easy inclusion of new information as it was discovered and which would permit easy access to precise data as it was needed. The main problem with the maps from previous work was that they were hand-drawn. If new data were to emerge which contradicted that which had already been plotted, the map (and all its copies) would become obsolete.

Professor Grice's problem therefore was to develop a system that would include all existing information, allow for easy inclusion of new data, interpret this data and make it accessible. He used a computer, and a large part of his work over the past eight or nine years has involved the development of various programs for the system.

One of the important areas of this work has been the question of detail (e.g. depth of rock, hardness of rock, absence or presence of sand). With the computer it is possible to store all the information and to use programs that produce, on demand, maps of a specified area.

Some of the maps produced by the computer line-printer are not elaborate or elegant. They do provide, however, necessary information at the required scale in a matter of minutes and thus provide a good starting point for the geologist and engineer.

UBC's language live-in program

In January, the University of British Columbia's Centre for Continuing Education will offer a new total-immersion program for people wanting to learn one or both of Canada's official languages. As part of the program, students will live in the homes of English- and French-speaking residents of Vancouver.

Enquiries for the program have already been received by the Centre from Japan, Iran and Mexico. Part of the program might include creative art productions in French or visiting to French restaurants.

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