



CANADA

# CANADIAN WEEKLY BULLETIN

INFORMATION DIVISION • DEPARTMENT OF EXTERNAL AFFAIRS • OTTAWA, CANADA

Vol. 16 No. 48

November 29, 1961

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## EDUCATION AND WORLD CRISIS

The following address was made by Prime Minister Diefenbaker to the National Conference of Canadian Universities and Colleges in Ottawa on November 14:

"At this critical time in world affairs, so much of the energy of government is consumed in coping with international emergencies. The problems faced by the free nations are very real and very great.

"I should point out that this year, by reason of the deteriorating world situation, we have had to add to the regular forces, including an increase in the NATO forces overseas. We have also had to add to the cost of civil-defence training and survival measures, which, together with the special military training of men to take part in survival, and resource operations, will amount in a full year to \$62.9 million.

"I have had some messages from well-intentioned Canadians to the effect that the launching of Tocsin 'B' shows a lack of faith in the divine purpose, and others say that the defence exercise is unnecessary and, in any event, is a preparation for war. This and similar exercises are necessary as assurance for the survival of many who otherwise would die should nuclear war come to us. The Communist argument that the exercise is a preparation for war has no basis in fact. The Kremlin would like Canada and other Western nations to be completely at the mercy of the threats of communism. The exercise does not show a lack of faith but rather the need of combining works with faith for survival.

## IMPLICATIONS OF BERLIN

"Many of you will have been asking yourselves what recent developments in the Soviet Union mean in relation to the Berlin problem. How should we view the Berlin problem in the light of Soviet resumption of nuclear testing? Of the Soviet note to Finland? Of the attacks which have been made on Stalin at the recently concluded Communist Party Congress in Moscow? And, finally, of the criticism directed at the Albanians and, by implication, at the Chinese during that Congress? All these momentous events are receiving the closest study by the leaders of the free world, not only for their intrinsic importance but for the bearing they may have on the most central and immediate problem of Berlin which is facing us at this time.

"One conclusion we might draw is that Khrushchov, having emerged from the Congress of the Communist Party with his internal position apparently assured, may feel that he can afford to be a little more reasonable about the problem he has created over Berlin. Whether he will be more reasonable remains to be seen. There are those who believe that he was moving in that direction when he modified his earlier insistence on a December 31 deadline.

"There are press reports that Mr. Khrushchov has made a new proposal about Berlin. The origin and significance of these reports is still uncertain and I am not in a position to make any detailed

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comment on that tonight. Nevertheless, as a general observation I would say this: While the free nations have every reason to be wary of Mr. Khrushchov, at the same time they cannot afford to dismiss out of hand any indication that he recognizes the necessity and desirability of a four-power agreement on Berlin.

#### A FOUR-POWER AGREEMENT

"It will be the task of Western statesmen, in the weeks ahead, to continue to explore the areas of a possible four-power agreement, and to make the necessary contacts with the Soviet Union. The NATO Council has for several weeks been considering all possible bases for a Berlin settlement. Canada is actively participating in the process of formulating a Western negotiating position. In this connection, I welcome the forthcoming visits of Dr. Adenauer to Washington and President de Gaulle to London as further opportunities for the consideration of unity in Western thinking.

"While it is, of course, too soon to say what that solution may be, the elements essential to the West have long been perfectly clear. The presence of Western troops in West Berlin (who themselves are a guarantee of the freedom of the city), unhindered access, and the liberties of the people of West Berlin and the viability of their city are elements which cannot be bargained away. And they are elements for which we must not purchase guarantees at such a price as would jeopardize other essential Western interests in Europe.

"Berlin is important because it is so highly explosive and is the only place where the military might of the two major powers is in confrontation. A retreat from our essential requirements in Berlin would mean a weakening all along the line.

"Our task in the weeks ahead will be to explore possible areas of agreement with the Soviet Union, with calm determination, with flexibility, and with a clear understanding of what our essential interests are. If the Soviet Union does, in fact, want a peaceful and mutually satisfactory settlement of the Berlin problem, there is no doubt that in months to come one will be found.

"In Berlin, as in so many other areas of international disagreement, the choice between reasonable settlements and an indefinite continuation of tension rests in the hands of the Soviet Union. In Berlin, as in the fields of disarmament and nuclear testing, the West stands ready and has long stood ready to enter into realistic and constructive talks immediately.

"At the moment the focus is on Berlin. Tomorrow it will be elsewhere, because the Communists use the trouble spots of the world just as a piano-player would the keyboard. In their efforts to enslave all mankind, they maintain a continuous barrage of emergencies and irritations.

"Canada for its part has demonstrated on many occasions its willingness to reach accord in these fields. Canada's initiative in the United Nations on disarmament and nuclear testing is on the record for all nations to see. We shall not desist in our efforts to travel the path of peace.

#### ARE WE LOSING?

"There are some people who consider that the free world is losing the world struggle and that the Soviet Union is making tremendous advances in the economic and military fields.

"However, in spite of all the boastings of Khrushchov at the recent Congress, his economic plans are based on the assumption that the Western world will virtually stand still economically. It must not and it will not.

"As you look back over the period since the war, it is helpful to recall, as did Mr. Chester Bowles, Deputy Under-Secretary of the United States recently, when he used these words:

"Every thoughtful citizen is concerned about the pressures which we face in Laos and Berlin about the intrusion of Communist power into Cuba, Soviet space exploits, and the development of Soviet industry and education.

"Yet what we often overlook, particularly in dealing with the new nations of Asia, Africa and Latin America, is the clear fact that in the political and economic field, the Kremlin's mistakes have been both frequent and serious and their own frustration correspondingly great."

"It seems to me that it has become an intellectual exercise for some to say that the West is losing. While Communism has made advances since 1945 the Soviet Union has failed in many fields: (1) It failed to overrun Europe after the war because of the measures taken in the Marshall Plan and the building of NATO; (2) it has failed in Africa, generally speaking, in its policy to new nations; (3) it has failed in its endeavour to bring about revolutions in Malaya, the Philippines, and Burma; (4) it has failed in the United Nations to put over the *troika* doctrine; (5) it has failed to control the non-committed nations in the United Nations - and I emphasize the votes that have taken place there since Khrushchov launched his policy of terror through megaton-bomb tests; (6) it has failed in its endeavour to have agreement with Communist China; (7) it has failed in its showcase in East Germany, economically, to attain the natural desire of people to have rising standards (to stop the flight of more than two million people from East Germany to a more prosperous and free West Germany, the Communists have had to resort to walls of stone).

#### BURDEN OF THE RED CHALLENGE

"The Communist challenge on all fronts, social, religious, political, economic and military, which will continue for this and the next generation according to Khrushchov, throws an enormous load on the spiritual values as well as on the processes of free nations.

"Education will have a major part to play in helping the free world to make an adequate response to the fierce, total challenge of totalitarian states. The Communists, at their last Congress, concluded that the game for the world is to be won, not with missiles, but with non-military counters. Regimented education is one means by which the regimented societies of the East threaten the world unregimented way of life.

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## GEOLOGY GRANTS TO UNIVERSITIES

Grants totalling \$75,000 have been awarded this year by the Geological Survey of Canada to 16 Canadian universities for research in the geological sciences. Ranging in size from \$300 to \$5,000, they are in support of 28 new and 15 continuing projects.

The 1961 amount brings the total of the grants since their introduction in 1951 to \$410,000. Their purpose is to stimulate and support geological research in Canadian universities, which, in turn, encourages promising students to pursue their graduate studies in Canada rather than abroad.

The awards, made on the recommendation of the National Advisory Committee on Research in the Geological Sciences, have been welcomed by university faculty members whom they enabled to pursue theoretical leads and provide answers to many geological questions. The results have been recorded in no fewer than 135 papers published in scientific periodicals over the past ten years. The awards are also serving to attract support from other sources, including industry.

### APPORTIONMENT OF AWARD MONEY

The largest single grant this year, amounting to \$5,000, went to McGill University for a long-term project involving experiments on the behaviour of silicates and sulphides at high temperatures and pressures to find out more about the formation of ores and the metamorphism of rocks. In addition, McGill received grants totalling \$5,850 for four other projects.

Queen's University received \$7,900 in support of four projects, the largest being a grant of \$3,500 to help the Mineralogical Association of Canada publish "Mineralogy and Origin of Sudbury Ores", the work of an outstanding Canadian mineralogist. A \$1,600 grant is to support the annual publication of the "Canadian Mineralogist" by the Mineralogical Association of Canada.

For four new projects, the University of Alberta received grants of \$6,770. The largest of these, for \$3,000, is for fundamental research in geochronology aimed at evaluating some of the factors causing discordant "radioactivity" dates and thus helping to interpret absolute dates.

One continuing and four new projects at the University of Saskatchewan were assisted in the amount of \$6,720. Two of the new projects and the continuing one received \$2,000 each. One of these concerns the collection and study of Pleistocene invertebrate fossils in order to gain a better understanding of the environment prevailing during Pleistocene and early Postglacial times.

McMaster University received \$6,000 for one new and two continuing projects. The new project,

awarded \$3,000, is a geochemical study to develop criteria for the origin of rock types, based on statistical studies of their trace element contents.

Carleton University, awarded \$5,600, has three new projects this year, as well as one continuing study. The largest grant, \$2,000, is for a geochemical study of Austin Brook iron formation and isotopic investigation of sulphide deposits in the Bathurst area of New Brunswick.

The University of British Columbia received grants of \$5,500 for two continuing projects. One of them deals with lead isotopes and the origin of sulphide deposits, and the other, allotted \$4,000, is a study of trace elements in soils, rocks, and plants.

A \$5,500 grant to the University of Toronto will support two new studies -- one dealing with age and history of a Keewatin greenstone belt, and the other with investigation and development of improved methods for preparing interpretive cross-section of subsurface geologic structures.

The University of Manitoba, for one continuing and two new projects, was awarded \$4,290. One of the new projects, allotted \$1,700, is for quantitative study of ore minerals at Coronation Mine, Manitoba. It is a comprehensive study of the Coronation copper deposit, and several hundred samples of the ore have been collected for examination.

The Universities of New Brunswick and Western Ontario received grants of \$3,040 and \$3,030 respectively, the former for three new studies and the latter for one continuing and two new projects. At the University of New Brunswick two grants, each of \$1,320, are, one for a study of the stratigraphy of the Bourinot Group and the other for a detailed field and petrographic study of bodies of gabbro being explored for nickel in the Miramichi area. The Western Ontario grants include one for \$1,300 for a study of geophysical prospecting methods.

Dalhousie University was awarded \$2,500 for a continuing project of research on the chemistry of an inland sea, and the University of Ottawa received \$2,300 toward a study of conodont faunas in the St. Lawrence lowlands.

Grants of \$2,000 each were made to Ecole Polytechnique and Memorial University, while St. Francis Xavier received \$1,000. The grant to Ecole Polytechnique is for a continuing study to obtain a more thorough understanding of the distribution and composition of niobium-bearing minerals at Oka, Quebec. The award to Memorial University is for a new project concerning research into Cambrian stratigraphy and structure of St. Mary's area, Avalon Peninsula.

## NUCLEAR CLOUDS STUDIED

The evolution and path of nuclear clouds are carefully monitored and charted by the Canadian Weather Service, it was stated recently by Mr. Léon Balcer, the Minister of Transport. Mr. Balcer said that Canada, in common with other countries, had access to all weather data in the northern hemisphere and was a party to all agreements of the World Meteorological Organization.

At the Central Analysis Office located in Montreal, weather data are analysed on a hemispheric scale, while at weather offices across Canada local analyses are carried out to provide information direct to users in the area. These analyses are essential in the monitoring of nuclear explosions and the prediction of the path of nuclear debris.

## TRACKING BUOYANT FALLOUT PARTICLES

Following a nuclear detonation, a large number of small particles are released into the atmosphere to an altitude in excess of 100,000 feet. Some are heavy enough to fall to the ground immediately. Others are buoyant, and it depends on meteorological factors such as turbulence and precipitation when they will reach the ground.

It is therefore necessary, Mr. Balcer said, to determine the drifting motion of such particles through a study of prevailing air currents at all levels and on a hemispheric scale. For the larger detonations, which penetrate well into the stratosphere, this study is being carried out in the Weather Services Central Analysis Office in Montreal.

For lower-yield detonations, where the major part of the cloud is concentrated at the base of the stratosphere, the monitoring of the trajectories is the responsibility of the Arctic Forecast Team in Edmonton and the Royal Canadian Air Force Forecast Office at Ottawa. These three offices, as part of the Canadian Weather Service, can monitor and predict trajectories of nuclear clouds originating anywhere in the northern hemisphere.

Mr. Balcer indicated that, during the coming weeks, official statements would be made from the Toronto headquarters of his Department's Meteorological Branch covering the trajectories of nuclear radioactive clouds that would pass over North America. "Already there has been noticed what is called a 'pressure jump' on the microbarograph, an instrument which measures changes in the atmospheric pressure, as a result of the most recent large-scale detonation", he added.

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## BANDED GEESE AID RESEARCH

Aluminum bands fastened to the legs of 12,000 geese now flying over southern Canada and the northern U.S.A. may yield valuable information on migration. These birds, which are blue and snow geese, were banded in the Koukdjuak River-Bowman Bay area of Baffin Island last summer by a Canadian Wildlife Service team led by Dr. Louis Lemieux.

Working farther north than any previous banding team, Dr. Lemieux's banders, who included two

Eskimos from Cape Dorset, took advantage of the moulting period of the geese to facilitate their work. During this time, which follows the hatching of the goslings, the birds are incapable of flight and banders herd the grounded goslings and geese into pens.

Very little is known of the migratory routes taken by the geese or their mortality rate. The return of bands from geese that have been downed for any reason will enable wildlife scientists to plot migration routes and calculate the mortality rate.

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## ILO EXPERT TO SENEGAL

Mr. J.V. Morin, business agent for the regional office of the United Packinghouse Workers of America in Montreal, left Canada on November 5 to undertake an assignment of four months' duration in the Republic of Senegal, under the ILO's Workers Education Programme, by arrangement between the Government of the Republic of Senegal and the International Labour Office.

Mr. Morin's duties include advising the responsible trade unions of the methods of organizing and administering a workers education programme and developing a programme for workers in the fields of trade union legislation, evolution of ideas, economical matters, productivity and professional organization.

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## OCTOBER SEAWAY TRAFFIC

The 1961 trend, already noted in monthly traffic reports, of increased downbound and decreased upbound cargo traffic moving through the St. Lawrence Seaway is again reflected in preliminary toll-traffic statistics recently released by the Seaway entities for the current navigation seaway through the month of October.

For the Montreal-Lake Ontario section, however, the month shows an increase of 19 per cent for both upbound and downbound traffic, compared with October 1960. The total of both upbound and downbound cargoes for October 1961 was 3,474,317 tons, an increase of 561,701 tons, or 19.3 per cent, over October of last year. For the April-through-October period, the upbound 1961 tonnage was 9.3 per cent less than that recorded for 1960, while the downbound traffic increased by 29.6 per cent over last year's figures. Total cargo tonnage for the same period of 1961 was 20,186,605, up by 2,137,570 tons, or 11.8 per cent, from the 1960 total of 18,049,035.

Both upbound and downbound cargoes via the Welland Canal section for October 1961 were greater than for October 1960. Upbound traffic increased by 10.9 per cent and downbound by 7.4 per cent, resulting in an overall increase of 8.4 per cent, 4,241,218 tons this October and 3,913,890 tons last October. The total Welland Canal traffic shows a net increase of 2.6 per cent for the April-through-October period, with 26,747,800 tons in 1961 and 26,077,862 tons in 1960.

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While bulk-cargo traffic has made decisive gains over 1960, general cargoes show little change from the level of the 1960 season. On the Montreal-Lake Ontario section, for the period April-to-October, general cargo traffic actually decreased by 7.5 per cent from 1,869,292 tons in 1960 to 1,729,236 in 1961. Through the Welland, however, this trend was reversed and an increase of 1.3 per cent recorded. The total general cargo tonnage was 1,578,352 compared with 1,557,851 tons in 1950.

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### MORE TRAINING FOR UNEMPLOYED

Every unemployed person, regardless of his educational background, should have an opportunity for training. This broad principle was accepted recently by the National Technical and Vocational Training Advisory Council, meeting in Ottawa.

The Council, made up of representatives of management, labour, provincial governments and other interested organizations, adopted a series of recommendations that constitute a blueprint for further action in Canada in the area of unemployed training.

Under the new Technical and Vocational Training Assistance Act, the Federal Government will contribute 75 per cent of provincial costs for training the unemployed. This contribution will be made towards any form of training a province decides is appropriate for improving an unemployed worker's chance of obtaining employment or of becoming a more effective employee when he returns to his occupation.

Members of the Council agreed unanimously that special courses should be given in mathematics, science and communication skills to make it possible for an unemployed worker to take further occupational training. It was noted that an unemployed worker often lacked this basic training and was thus unable to qualify for more specialized training courses.

Other recommendations adopted by the Council were that the development of subject material for these basic subjects should be co-ordinated by the Federal Government and that each provincial government should provide a special co-ordinator to ensure effective operation of training programmes for the unemployed and to ensure that these were co-ordinated with other provincial training programmes.

A report presented at the meeting stated that there were four times as many unemployed persons enrolled in classes during the past summer as during the previous summer. From April 1 to August 31, 1961, there were 3,165 enrollments. For the same period last year the number was 732. Based on reports from the provinces, there will be a substantial increase in training programmes for the unemployed during the coming winter.

### OTHER MATTERS

The meeting, which ended on November 10, also heard reports on a survey currently being conducted to determine the need for training in agriculture and related primary industries in Canada, on a study of

the need for effective training programmes for employed persons in industry, and on the need to increase vocational teacher-training programmes to meet requirements created by the expansion of training facilities in Canada.

Mr. Michael Starr, Minister of Labour told delegates that, to date, the Federal Government, which had agreed to pay 75 per cent of approved provincial expenditures for the construction of vocational schools and equipment until March 31, 1963, had approved the construction of 141 new technical institutes, trade schools and technical and vocational high schools across Canada.

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### CANADA-VENEZUELA RADIO PACT

The Secretary of State for External Affairs announced on November 20 that the Governments of Canada and Venezuela had agreed to enter into an exchange of notes in Caracas constituting an agreement between the two countries to allow the amateur radio stations of Canada and Venezuela to exchange messages or other communications from or to third parties, subject to the conditions set down in the exchange of notes. These conditions are that amateur stations shall not be paid any direct or indirect compensation, and that messages shall be of a technical or personal nature and only transmitted where recourse to the public telecommunications service is not justified.

Canadian radio amateurs are at present authorized to communicate with radio amateurs throughout the world in compliance with the International Radio Regulations of the International Telecommunications Union and with the Radio Act and Regulations of Canada, provided that communications are made in plain language and limited to messages of a technical nature. Radio amateurs generally are not permitted to use their stations for communications on behalf of third parties. However, the International Radio Regulations recognize that countries may conclude special agreements to permit amateurs of the countries concerned to exchange third-party communications. This will be the second agreement of this type to which Canada is signatory, the other being with the United States of America. The Canadian Government is at present negotiating similar agreements with a number of other countries.

The Venezuelan Foreign Minister, Dr. Falcon Briceno, and Mr. Green exchanged greetings in an inaugural hook-up of amateur radio stations, on November 22. Radio amateurs in Canada and Venezuela were able to tune in on this exchange of greetings on 14.175-14.200 megacycles. Dr. Falcon transmitted from station YV-5AJ of the Venezuelan Radio Club; Mr. Green transmitted from station VE3-ATU, operated by Captain S.T. Chisholm, a member of the Ottawa Amateur Radio Club. The Ambassador of Venezuela in Canada, Dr. Manuel R. Egana, exchanged greetings with the Canadian Chargé d'Affaires in Venezuela, A.D. Ross.

EDUCATION AND WORLD CRISIS

(Continued from P. 2)

"In the non-military phase of the world struggle, education is a major counter. Democracy safeguards the free flow of ideas. The open mind and the open society are deadly foes. As universities nourish open minds, they are on the front line of the current battle for the defence of freedom.

NEW DIMENSION FOR EDUCATION

"Education has thus acquired a new dimension in the international arena; it has become an instrument of world politics. Russia and China are employing science and technology as major weapons in the quest for world power. They, too, will have to employ science and technology on a very large scale, and the universities must be leaders in this vital task. Free societies must not allow themselves to be overtaken and outmatched.

"National growth is becoming more and more dependent upon the education of Canadian citizens. On the economic side, as production becomes more and more technical, more and more skill is required from the producer, and the unskilled are supplanted progressively by machines. It is more than coincidence that persons with only elementary education are more likely to be out of work than those who have been fully trained for their life's work, and that one-fifth of Canada's unemployed are persons in their teens. As Canadian business faces the demand to show increasing versatility, it faces an increasing need to find 'broad-gauge men', people who have been taught to apply themselves to new and unprecedented situations in a world of change. These are the kinds of persons universities specialize in producing.

"The universities of Canada fulfil a major role in helping to prepare those who will be required to give leadership to Canadian industry, and those whose research will help to raise productivity by improvements and innovations in many fields. Education, once regarded by many as a disability for practical men, is now recognized as an essential instrument of continued and healthy national growth."

DESIGN COUNCIL TOY DISPLAY

A display of toys and playthings of Canadian manufacture, approved by the Canadian Toy Testing Council and considered suitable for sale anywhere in the world, opened in Ottawa, Montreal and Toronto on November 20. It will continue until December 9. The exhibition in each of the cities selected is being sponsored by the National Design Council, which was created several months ago by the Federal Government to promote good design in all Canadian industrial products.

Mr. George Hees, the Minister of Trade and Commerce, presided at a preview of the display held in the Fuller Building, Ottawa, and officially opened the exhibition in Toronto on November 20, in the "Arcade", on Yonge Street. The Montreal exhibition was opened in the main lobby of the Mount Royal Hotel on November 22 by Mr. John C. Parking, of Toronto, Chairman of the National Design Council. It had been thrown open to the public two days earlier.

The purpose of the exhibitions is to draw attention to the design of good toys, all tested to determine whether they are safe, durable, versatile and in working order.

The Canadian Toy Testing Council, a voluntary organization, was created to assist the general public and toy manufacturers by testing toys and furnishing information about playthings on the market. Its members include teachers, specialists in child psychology, therapy, physical fitness and other fields, and representative parents. Samples of toys are obtained through the co-operation of manufacturers, and are subjected to extensive use tests. Toys of good design contribute to the physical, mental and social development of children of all ages.

The display arranged by the National Design Council was prepared in co-operation with the Canadian Toy Testing Council. Those tested and approved are marked with a red star. Eskimo playthings, toys made by children, and historical toys, are on show in the exhibitions. Other items include dolls, tractors and trains, construction sets and log cabins, a climbing frame, jumbo dominoes and colossal checkers.

The National Design Council is planning other exhibitions, which will range from office equipment to kitchen utensils.

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