



Information Division  
Department of External Affairs  
Ottawa Canada

## Canadian Weekly

# Bulletin

Vol. 26, No. 38

September 22, 1971

### WORLD PEACE AND NUCLEAR ENERGY

*"It is an honour for me and for my country that I should be the first foreign minister to address one of these important conferences," said the Secretary of State for External Affairs, Mr. Mitchell Sharp, in a speech to the Fourth International Conference on the Peaceful Uses of Atomic Energy in Geneva on September 6. "Canada has a long experience in the development of the peaceful uses of nuclear energy, going back to the late 1940s. The decision to concentrate our resources on this aspect of nuclear science is one we have never regretted and that through the years has enjoyed the support of an overwhelming majority of the Canadian people." The balance of Mr. Sharp's address follows:*

Sixteen years have passed since the first of these conferences opened in this hall. That first conference in 1955 caught the attention of the world and gave rise to great expectations. Until then the words "atomic energy" brought to mind only the mushroom cloud, the firestorm and the helplessness of man in face of this new catastrophic weapon. Until 1955 only a few scientists knew of the technical accomplishments and positive possibilities that had been shrouded in secrecy. It was here, in this Palais des Nations, that the veils were torn away and the world saw that man could use his new knowledge and this new power-source as well for his betterment as for his destruction.

The new expectations of 1955 were balanced –

perhaps overbalanced – by man's continuing fear of the nuclear-weapons race. The public heard about the more fascinating uses of isotopes and about the prospects for megawatts of electrical power, generated by atomic energy. But for most of the next decade much more was heard about megatons and "mega-deaths" than about megawatts. "Fallout" was the new plague to be feared and ICBM's were targeted on many of the world's great cities and still are. To the age-old fears of war and oppression was added a new fear, of instant widespread destruction brought about by the pressure of a finger on a button, bringing into doubt the capacity of statesmanship and diplomacy to keep the peace.

In more recent years, our fears seem to have diminished. This is the normal human reaction to an ever-present threat; the farmer who tills the slopes of a volcano year after year learns to stop worrying about an eruption that may never come. Our fears have been lulled by our recognition that the two great military powers of the world are for the time being in a state of equilibrium, an equilibrium that neither can disrupt without risking its own and possibly mankind's destruction.

Canada welcomes the initiatives taken by the United States and the Soviet Union towards strategic arms limitation, the SALT talks. The two nuclear powers have begun to carry out their obligations under Article VI of the Non-Proliferation Treaty. The task they have undertaken is both complex and difficult. The joint announcement by the United States and the Soviet Union on May 20 last that they had reached an understanding in principle to concentrate this year on working out an agreement for the limitation of the deployment of anti-ballistic missile systems and that together with this ABM systems agreement, they would agree on certain measures with respect to the limitation of offensive strategic weapons, is heartening evidence of progress. We shall all watch with eager anticipation their efforts to translate this understanding into concrete agreements in the coming months. It is to be hoped that the SALT

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agreements will include measures to curtail the nuclear-arms race in its qualitative as well as its quantitative aspects.

#### WELCOME SAFEGUARDS

The Non-Proliferation Treaty, which came into force on March 5, 1970, and the safeguarding procedures that have been recently worked out by the International Atomic Energy Agency's Safeguards Committee offer some hope that the further spread of nuclear weapons will be limited. The solemn declarations of states party to the Treaty to renounce this kind of military force and their agreement to allow international personnel to inspect their nuclear installations justify a cautious optimism. There are, however, states that have not signed the Treaty, and its effectiveness will be diminished if some important nuclear and so-called "near-nuclear" nations continue to stand aside. I am pleased to announce today that our negotiations are proceeding favourably and that Canada expects to conclude the safeguards agreement with the Agency before the end of the year.

The measure of confidence arising out of the Non-Proliferation Treaty will be strengthened if it is brought into smooth and effective operation. The states that have renounced nuclear weapons have done so in the belief that their own interests are best served by this renunciation; they recognize that they have less to fear from others when they show that others have nothing to fear from them. The mutual trust and confidence born of this renunciation will endure only to the extent that these same states now co-operate with the International Atomic Energy Agency and its inspectors in the operation of safeguards.

#### ATOMIC HOUSEKEEPING

All of us must keep carefully-audited records of our production, movement, and consumption of fissionable materials if we are to feel confident that we have good internal control. The records that we need for good housekeeping at home fulfil most, if not all, of the requirements for international inspection. For this reason I do not believe that safeguards impose a new burden. I know that some organizations fear that in submitting to detailed inspections their commercial secrets might be compromised, but the real commercial secrets lie in unaffected areas such as the design and manufacture of components and these fears are exaggerated. It is now in the interests of each state to be generous in its co-operation with the Agency's inspectorate and to demonstrate to the rest of the world community that its intentions are wholly peaceful.

The peace of the world may not be quite as precarious as it was a few years ago, but the dangers are still real. The Moscow Partial Test Ban Treaty of 1963 has stopped many – but by no means all – of the nuclear explosions that contaminate our atmos-

phere. To some extent this Treaty can be looked upon as a major public-health measure rather than as arms control. Our newspapers no longer give us those daily fallout readings to remind us that nations are developing nuclear weapons to even higher levels of effectiveness. But the testing goes on underground – this kind of activity has accelerated since the signing of the partial test-ban – and the development of ever more sophisticated nuclear weapons continues.

#### UNDERGROUND TESTS

With these realities in mind, many states of the world, including Canada, have concluded that the time is ripe for a renewed and determined effort to achieve a ban on underground nuclear tests as an extension of the partial test-ban of 1963. Seismological investigation, investment in improved facilities, and the possibility of international co-operation in seismic data exchange have all begun to give grounds for believing that adequate seismological methods of discriminating between underground nuclear explosions and natural seismic events can be found. Problems and ambiguities remain – particularly with explosions of extremely low yield, where verification trails off into the realm of the improbable. But the potential for seismological identification has sharply narrowed and made more manageable the issue of onsite inspections that has for too long bedevilled efforts to achieve an underground test ban.

The verification problem is in the last analysis a political rather than a technical question, and in our view, as well as that of a very large number of non-nuclear nations, the time has come for the two major nuclear powers to take up their efforts to resolve this problem where they left off eight years ago. At the same time, we should not ignore the desirability of all nuclear powers adhering to the Moscow Treaty and joining with others in an effort that would lead to a complete ban on all nuclear tests. Until such a ban can be reached, I urge the two major nuclear powers to scale down their underground tests, starting with the biggest.

As I address you today, I am aware – uneasily aware – of the fact that a quarter of mankind, the people of China, is unrepresented amongst us. I accept the assurance of Mr. Chou En-lai that Chinese intentions are peaceful, but I am sure we shall all be happier when the representatives of that ancient civilization and powerful modern state are taking part in our deliberations rather than observing them in silence. Canada will do all it can to ensure that this is the last conference on nuclear energy in which a quarter of mankind – and a nuclear power – goes unrepresented.

In the 16 years since our first conference in 1955, nuclear scientists and engineers have forged ahead. In most situations, large quantities of electricity can now be produced by the fission of uranium as cheaply as by burning coal or oil. Fears of a



## CHARLES DAUDELIN - MONUMENTAL SCULPTOR

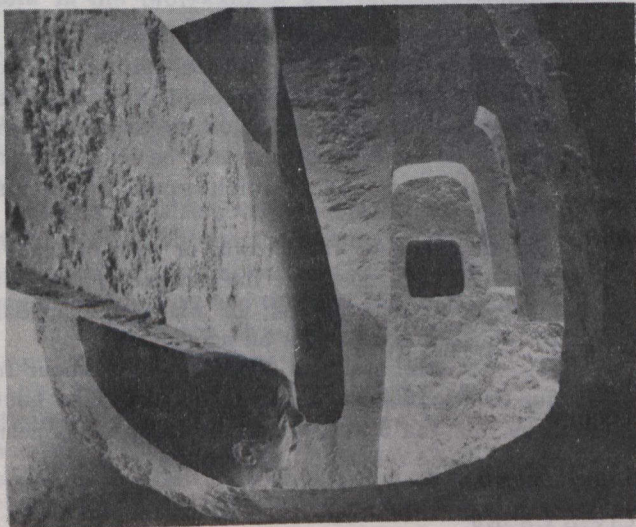
Charles Daudelin was born in Granby, Quebec, in 1920. While working in Montreal as a young man, he decided to pursue the study of art and enrolled in a course in wood sculpture at the city's Ecole du Meuble. He also took a drawing course given by Paul-Emile Borduas. In 1943, he obtained an M.A. in ceramics and casting. Daudelin was awarded a bursary in 1946 by the French Government and went to France to paint and carve in the studios of Fernand Léger and Henri Laurens.

In 1965, he won a competition for the monumental sculpture that stands on the south side of the National Arts Centre in Ottawa.

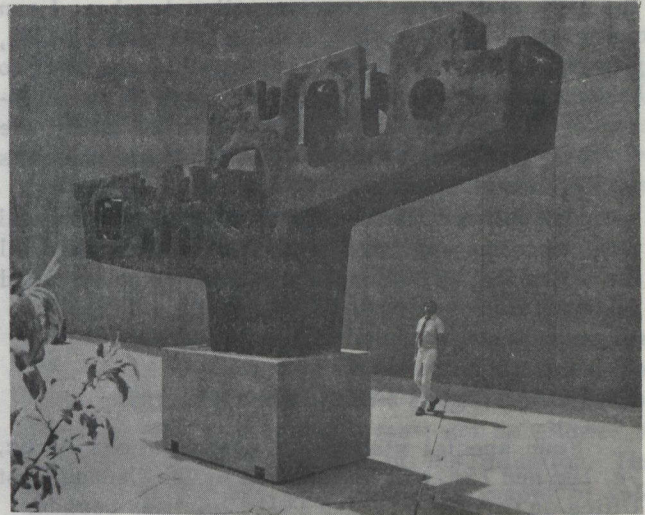
When Charles Daudelin began preparing his first models for the Arts Centre sculpture, his awareness of the nature of the building had a strong influence on the evolution of the work. Viewing the Centre's low, solid mass, he realized that it would be necessary to design the sculpture on the horizontal plane so that it would occupy a space in harmony with the shape of the building. Because of the location of the sculpture, it would have to be large enough to be clearly visible to cars passing in the street at a fairly high speed. But it must not appear so heavy that it would overwhelm people passing on foot.

After making several experimental *maquettes*, Daudelin discovered that a feeling of lightness could be achieved by placing the sculpture on a pivot and making the inside of the piece as hollow as possible. The open interior and the many apertures in the exterior create countless possibilities for combinations of light and shadow. The winter snow, too, creates interesting patterns. Daudelin mentions the joy and excitement he felt on seeing a group of youngsters scrambling about inside his work.

Despite the sculpture's tremendous weight (nine tons), it is perfectly balanced. Playing with axes



Mr. Daudelin shows how you can get inside his creations.



The sculptor inspects his work on the south terrace of the National Arts Centre.

and balance is a game Daudelin enjoys. "Meditation induces creation," he says, "and creation demands physical labour. My sculptures nearly always take form when I am in a state of dream. Anything becomes possible. Shapes superimpose themselves on each other at an unbelievable speed, and the material and the tools offer no resistance. I am at the same time both inside and outside the work."

The parts of Daudelin's sculpture create a world of shadow and of light, and people and other objects are part of that world.

The whole environment has an influence on his work. The final product is more than an adaptation of the material; it is a re-creation in which the materials, their strength, dimensions, light and weight all have an effect.

Daudelin believes that as long as a sculpture can be modified, it belongs to the artist. But as soon as it leaves the studio it is no longer his. It then lives by itself, and through others.

Sculpturing is a long process, and many sculptures exist in Daudelin's mind before one becomes real. Only one image will be made tangible and visible; the others remain latent in his mind.

Daudelin says that the sculptures that he imagines often fill his mind completely. There have been periods in his life when he was so full of ideas that he could have continued to be a sculptor without actually doing any carving. He finds it difficult to come out of the isolation that work imposes to let others participate. "There is often conflict in my mind," he says, "between the need to feel necessary and the temptation to lead an isolated self-sufficient existence. You can peacefully enjoy the pleasant things in life and share your experiences with only a few friends, but then you run the risk of feeling useless."



"I enjoy the world, but as an observer," he states, "I like to hear the noises of the city and men talking, to feel the movement of the crowds, to see the light shifting and changing all it touches. I can concentrate on one small detail, or take in the whole, but that doesn't mean I communicate. I come back to consciousness when other people come to my attention." The same thing happens when he works. He "wakes up" as soon as the sculpture becomes visible to other people.

Daudelin's sculpture, commissioned by a special arts committee appointed by the Cabinet to select all the works for the National Arts Centre, was installed in June 1969.

### SPECIAL STAMPS FOR CHRISTMAS 1971

Four special stamps, in denominations of 6¢, 7¢, 10¢ and 15¢, will be released by the Canada Post Office on October 6 for the 1971 Christmas season.

This year's issues bear snowflake designs created from intricate pen-drawings by Miss Lisl Levinsohn of Toronto. The two lower-denomination stamps are being printed by one-colour steel-engraving, using blue for the 6¢ value and green for the 7¢ value. The higher denominations are being printed by the combined processes of steel-engraving and lithography, using red and silver for the 10¢ stamp and red, blue and silver for the 15¢ stamp.



The 6¢ and 7¢ stamps, each measuring 24mm by 30mm, are being produced in panes of 100. The 10¢ and 15¢ issues are slightly larger in size, measuring 30mm by 30mm, and are being produced in panes of 50. Marginal inscriptions, including the designer's name, appear on the four corners of each pane of stamps available from the Philatelic Service.

### LEGAL AID PLAN FOR THE NORTH

Justice Minister John Turner and Mr. Stuart Hodgson, Commissioner of the Northwest Territories, have announced the signing of an agreement to provide a comprehensive civil and criminal legal-aid plan for the Territories.

The plan, first of its kind in the North and the

first comprehensive plan ever provided by the Federal Government, will make the services of a lawyer available in almost all criminal offences, and within a broad range of civil matters, including divorce and most family affairs.

The costs of the plan are to be shared by the Department of Justice and the territorial government. It will be administered by a committee of three, one of whom must not be a member of the legal profession. The other members will be an employee of the territorial government and a member of the territorial bar.

The agreement states that legal aid in both civil and criminal matters shall be made available to every person in the NWT and to every person ordinarily resident there who, in the opinion of the committee, cannot afford to retain his own lawyer without depriving himself or his dependents of reasonable necessities or without sacrificing modest capital assets. Provision is made for reimbursement in certain civil cases where damages or costs are recovered by a successful legal-aid recipient.

### CRIMINAL CASES

In criminal cases, the committee will arrange to have a legal-aid lawyer accompany the Territorial Court and the Magistrate's Court when it travels across the the Arctic, if it appears that the lawyer's services might be required. There is also provision for a legal-aid lawyer to travel in advance of the Court circuit to prepare cases where the committee feels this would be appropriate.

Legal aid in criminal cases is to be available in any of the following matters:

- (1) An offence under a statute of Parliament (which includes the Criminal Code) and is to be proceeded with by indictment;
- (2) an offence under a federal statute or regulation, where the Crown proceeds by summary conviction and the accused is subject to a sentence of imprisonment or to a penalty that, in the committee's opinion, will interfere substantially with his livelihood;
- (3) proceedings under the Juvenile Delinquents Act;
- (4) in any other case where, in the opinion of the Court or the committee, the accused is not capable of making an informed decision as to his proper course of action or where he may be subject to a jail term or a sentence which would affect his livelihood;
- (5) in appeals taken by the Crown; or where counsel advises that an appeal by the accused has merit and the committee agrees; or where the appeal court requests counsel for an accused.

Fees in criminal cases include \$30 an hour in court, up to a maximum of \$300 a day; \$15 an hour when away from the office on circuit up to a maximum of \$150 a day; and reasonable travelling expenses.

### CIVIL CASES

Legal aid may be provided in most civil cases, where the lawyer certifies that the client has a reasonable



case and the committee agrees. Fees are to be 75 per cent of the existing tariff. The lawyers participating in the scheme will therefore in effect be contributing 25 per cent of the fee. Assistance is not available in ordinary cases such as purchase of a house, incorporation of a company, estates, and certain other specific actions such as defamation and breach of promise of marriage.

The agreement provides that the Commissioner shall make an annual report to the Minister of Justice in his capacity as Attorney General of the Northwest Territories.

#### VISIT BY MALAYSIAN PM

The Prime Minister announced recently that the Prime Minister of Malaysia, the Honourable Tun Abdul Razak, accompanied by his wife Toh Puan Raha, would pay an official visit to Canada this autumn. Tun Razak will arrive in Ottawa on October 6 for two days in the capital. He will then go on to British Columbia for an unofficial visit. Prime Minister Trudeau made an official visit to Malaysia in 1970.

#### SCOUT AWARD TO RCMP VETERAN

Commissioner Leonard H. Nicholson, RCMP (retired), of Woodlawn, Ontario, was awarded the Bronze Wolf at the twenty-third World Scout Conference in Tokyo on August 14.

The Bronze Wolf is the highest award made by World Scouting; Commissioner Nicholson received it for his outstanding contribution to the Boy Scout world movement. He was the first chairman of the World Conference's International Relationships Committee and had attended six conferences as a Canadian delegate.

Commissioner Nicholson is one of Canada's outstanding citizens - a man who rose to the top in both in his professional and in volunteer roles, becoming Provost Marshal of the Canadian Army during the Second World War, Commissioner of the RCMP, President of the Dominion of Canada Rifle Association, Chancellor of the Priory of Canada, Order of St. John, and Deputy Chief Scout of the Boy Scouts of Canada.

In 1969, L'Association des Scouts awarded Commissioner Nicholson the Vanier Scout Medal for his contribution to the committee on co-operation between Les Scouts and the Boy Scouts.

In 1970 he was awarded the Silver Wolf, Canadian Scouting's highest award for service of a national nature by the Chief Scout, Governor-General Roland Michener. This award recognized his service as a member of the National Council for almost 20 years, where he served as a member of the Administration Committee, as Deputy Chief Scout and International Commissioner. He was Camp Chief of the third Canadian Jamboree and Canadian Contingent leader to the World Jamboree in 1963.

#### WORLD PEACE AND NUCLEAR ENERGY (Continued from P. 2)

world energy crisis have been postponed, perhaps for centuries. It is now our task to apply the technology that has been developed to bring to all men a supply of energy sufficient to meet their needs. The technology is ready, the world needs electricity, and we can expect to see a continuing shift away from new fossil-fuel stations toward new nuclear stations.

#### NUCLEAR POWER INDISPENSABLE

A great and exhausting debate has been raging between those who question the safety of nuclear-power plants and those who defend them. The emotion generated by this discussion must not be allowed to conceal the essential facts of the situation. The nuclear industry has an outstanding record of safe operation. No other industry - and this for obvious reasons - has been as conscious of its obligations to protect its workers, the public and the environment itself. In a world in which everyone, every day, is exposed to innumerable hazards, we must keep a sense of proportion. Man would be foolish indeed to deny himself a source of energy that he sorely needs. This planet has yielded up the fossil fuels that permitted us to launch our industries. But fossil fuels cannot sustain us through the centuries, and I say this in the full realization that mankind may have to learn to limit its energy consumption. When we consider the risks of nuclear power, we must also weigh against them the risks that will arise if we turn away from nuclear power. Not only the risks that arise from the alternatives that we can temporarily employ - coal, oil and gas - but also the risks that would arise, were the nations facing a global shortage of energy to come into conflict over the sharing of what was left.

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Peace is more than the absence of war. To have peace we must build a world society in which man can express his personality and develop his potential without attacking his neighbour or coveting his goods. That is why nuclear fission has such a great contribution to make to the building of a peaceful world, and to the eradication of poverty. Substantial efforts have been made by the United Nations, by the International Atomic Energy Agency, and by individual countries in this great endeavour. My own country has played an important part by co-operating with developing countries in their own nuclear-power programs.

Perhaps it is well, however, to add a word of caution based upon our own experience. Nuclear energy is only a tool for economic development. It has its limitations. It is massively expensive. Only the richest and most highly industrialized countries can afford the experimentation that is essential to the development of the technology.



VARIETY OF USES

For example, the production of electricity from nuclear reactors has now reached the state where it is possible to contemplate the building of large generating-stations wherever there is a demonstrable need for large amounts of electrical power, and where the power generated can be brought to bear effectively on the solution of existing problems. The question is: how many developing countries can meet these criteria?

We have all heard of the "agro-industrial complex", and particularly the project that is under study in India. This would involve the use of nuclear power to pump deep-underground water to the surface for irrigation. As I understand it, nuclear power would also be used for the local production of fertilizer. If successful, such a complex would offer the potential for a major new step in the "green revolution" that has already had such beneficial effects in the Indian subcontinent. Its success could open an important new chapter in the story of man's fight against hunger and malnutrition.

The application of nuclear energy to the large-scale de-salting of sea-water is another, and a more difficult, question. The need undoubtedly exists, and this could be the concept that will start new "green revolutions" in the deserts of the world. But, just as nuclear energy is not always the most economical means of generating electricity, so we must be careful not to mislead peoples and governments into believing that the dream of de-salting sea-water is just about to become a reality.

In the course of the next days, you will devote much of your time to the large-scale use of atomic energy for the production of electricity and for the de-salting of sea-water. You will also consider the numerous applications of isotopes and radiation - in research, in industry, in agriculture and in medicine. There have been remarkable achievements, particularly with the new nuclear techniques for the diagnosis and treatment of cancer and of some of the other diseases that afflict mankind. You will seek to evaluate what contributions these can make to the improvement of life in the developing countries.

Isotopes and radiation are tools - their use is not an end in itself. We must, as I have said, identify

what our aims are and then see whether atomic energy provides the best tool for achieving them. For example, the developing countries have a great need to find better ways of preventing the wastage of food in storage. Pests and various forms of decay destroy a large fraction of what is produced. Irradiation may help to conserve this food, but until this has been demonstrated and its economic feasibility established, better-known techniques - dehydration, canning or refrigeration - are still probably more appropriate in most situations.

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We have come to Geneva to discuss the silver lining of the nuclear cloud, a happy circumstance that does not permit us to disregard the cloud itself. The achievements and possibilities of the peaceful uses of atomic energy on which I have touched this afternoon justify a sense of pride and hope. Nevertheless, we are discussing a force that, if misused, has a destructive capacity difficult for any of us, scientist or layman, to comprehend fully.

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Today there is an equilibrium between the great nuclear powers, the United States and the Soviet Union. These powers are now seeking ways to limit the nuclear-arms race; I hope to find an equilibrium at a lower and less-menacing level. I have suggested to you that China may soon be a nuclear power to be reckoned with. This will call for a new equilibrium and the sooner China comes fully into the councils of the world, the better for us all.

So I leave with you this thought. The peoples of the world need the energy and other benefits that nuclear science has to offer. They accept reluctantly the mutual balance of nuclear deterrence that offers them a measure of security. But many of those without the special knowledge and expertise you enjoy look upon nuclear energy as inherently dangerous and threatening, like a half-domesticated beast. You, ladies and gentlemen, as the managers of nuclear knowledge and technology, are uniquely equipped to bring home to your governments, directly and by moulding world public opinion, their responsibility to see to it that the beast is fully domesticated and kept at useful work for the benefit of all.