

higher Order of Merit, which is limited to 24 living members. Included in these were former Canadian Prime Ministers Lester B. Pearson and Mackenzie King.

Mr. Diefenbaker, who was named to the Queen's Imperial Privy Council in 1957, is the only living Canadian member of that Council. He has received a total of 33 honorary degrees in Canada and abroad.

Now 81 years old, Mr. Diefenbaker is a member of the official Opposition in the Canadian Parliament.

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### Ocean dumping without permission can be expensive

The Ocean Dumping Control Act and regulations that became effective across Canada December 13, 1975, control all ocean dumping as defined in the Act, from either ships or aircraft, by a federal permit system.

Penalties for dumping without a permit can involve fines of up to \$100,000.

Canada was one of some 80 nations which signed the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) in 1972. The Convention is now in force, having been ratified by Canada and more than 15 other nations.

Under the regulations, permits are required for general dumping, dredging, incineration at sea, disposal of vessels, and disposal on ice.

As a general rule, permits will not be granted to dump substances which are known to cause harm to the marine environment, such as mercury, cadmium, plastics, oils, and highly radioactive materials.

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### Canada/Morocco double taxation pact

Canada and Morocco signed a convention on December 15 for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income and on capital. The agreement was signed in Ottawa by the Secretary of State for External Affairs, Allan J. MacEachen, and Moroccan Ambassador Nourredine Hasnaoui.

After the Canadian tax reform in 1971, the Minister of Finance indicated that it would be necessary to revise exist-

ing tax treaties and to negotiate a large number of others. In the case of the convention with Morocco, talks started in December 1973. This convention is the fourth signed by Canada since the tax reform.

The convention, which is patterned on the draft double taxation convention prepared by the Organization for Economic Co-operation and Development, can be divided into seven parts: scope; definitions; taxation of income; taxation of capital; elimination of double taxation; special provisions; and final provisions.

A general rate of withholding tax of 15 per cent will apply to dividends, branch profits and interest paid to non-residents, and a rate of 10 per cent will generally apply to royalties. The convention also provides for a very limited number of exceptions in the case of interest and royalties.

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### Astronomy find excites scientists

A team of National Research Council of Canada astronomers has announced discovery of the heaviest molecule yet found in interstellar space.

Microwave radiation from the molecule cyanodiacetylene (HC<sub>5</sub>N) was detected in November through observations at NRC's radio telescope facility in Algonquin Park, Ontario.

Astronomers consider it surprising that such a scarce molecule should be found in the vast reaches of space between the stars where molecules of any kind are exceedingly rare.

Until now, the heaviest species identified has been sulphur dioxide (SO<sub>2</sub>), composed of three atoms with a total molecular weight of 64. While significantly heavier at molecular weight 75, cyanodiacetylene contains single hydrogen and nitrogen atoms attached to a five-carbon long organic backbone.

The new molecule has caused excitement to scientists since it has the same molecular weight as glycine, the simplest of the amino acids. All the atoms that comprise glycine, namely carbon, hydrogen, nitrogen and oxygen, are present in interstellar space. The detection of a heavy molecule like cyanodiacetylene raises hopes that amino acids, the building blocks of protein, may also be found. If life exists elsewhere in the universe, such amino

acids must be present.

The suggestion to search for cyanodiacetylene came initially from Dr. Takeshi Oka, a scientist at the Herzberg Institute of Astrophysics in Ottawa. Working with data observed in the laboratory by Dr. Harry Kroto of the University of Sussex in England, he was able to predict a precise frequency at which the molecule would emit energy.

The search then shifted to NRC's Algonquin Radio Observatory whose radio telescope was aimed at an area in the constellation Sagittarius, some 30,000 light years away. In the past, this same region of the galaxy has been a rich source of discovery for new interstellar molecules.

Within days, the predicted radio frequency of cyanodiacetylene was detected and recorded. The findings were announced December 10 at the Chicago meeting of the American Astronomical Society in Chicago, U.S.A.

The Canadian team, N.W. Broten, Dr. Lorne Avery, and Dr. J.M. MacLeod of the Herzberg Institute of Astrophysics is continuing its search for other frequencies in the spectrum of cyanodiacetylene and for evidence of other possible heavier molecules.

In a few short years, molecular line spectroscopy has become one of the most active fields in astrophysics. It has grown concurrently with the emerging sophistication of the radio telescope, an instrument whose detection of radio waves is analogous to light detection by an optical telescope.

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### Veterans pensions rise

Increases in disability pensions, widows and orphans pensions, war veterans allowances, civilian war allowances, and other benefits effective January 1, reflect the 11.3 percent increase in the consumer price index since the last adjustment a year ago.

Increases in allowances payable under the War Veterans Allowance Act and certain civilian allowances payable under the Civilian War Pensions and Allowances Act, which are adjusted quarterly, reflect the 2.8 percent rise in the cost of living since October.

Nearly 425,000 Canadian veterans and dependants of veterans receive benefits affected by these latest increases.