Prime Minister of Japan visits – possibility of increased bilateral trade

Prime Minister Kakuei Tanaka, accompanied by senior trade and foreign affairs officials, on a four-day visit to Canada that began September 23, held wide-ranging discussions on trade and economic affairs and bilateral and international issues with Prime Minister Pierre Elliott Trudeau and other officials of the Canadian Government.

Mr. Tanaka, the first Japanese Prime Minister to visit Canada since 1961, told a news conference the next day that trade between his country and Canada would reach $4 billion this year and maybe $4.5 billion – two thirds of that amount in Canadian exports to Japan.

"There is plenty of room for expansion of trade between Canada and Japan," he said. This could be made possible by the increased sale to Japan of Canadian manufactured goods and by exports of Canadian nuclear reactors and aircraft.

Canadian and Japanese officials are to study the possibility of new Japanese investment in Canada on a joint venture basis.

Among items in a joint communiqué issued at the conclusion of Mr. Tanaka's two days in Ottawa were: matching programs of $1 million each would be negotiated for the promotion of academic relations between the two countries, the money to be used mainly for the development of Canadian studies in Japan and Japanese studies in Canada; negotiations would begin toward the signing of an agreement to promote cultural exchanges; and that Mr.

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Prime Minister Kakuei Tanaka of Japan (left) *and Prime Minister P.E. Trudeau on Mr. Tanaka's arrival at Ottawa for a four-day visit to Canada.*

Trudeau had accepted Mr. Tanaka's invitation to visit Japan at a later date.

From Ottawa, Mr. Tanaka spent a few hours in Toronto, receiving an honorary degree of doctor of laws from the University of Toronto. He ended his Canadian visit with a stopover in Vancouver, where he unveiled a plaque at a new Asian Centre at the University of British Columbia.

New telemetry-monitoring system to diagnose epilepsy

A team at the Montreal Neurological Institute (MNI), part of McGill University, has recently devised telemetry systems which greatly facilitate the diagnosis of epilepsy and localization of areas in the brain responsible for seizures. Whereas former methods to record epileptic seizures sometimes involved considerable discomfort for the patient and often proved inconclusive, the new monitoring systems have produced more accurate records of brain activity and have increased the likelihood of recording a seizure without undue discomfort to the patient.

The MNI has long been renowned for its pioneer work in neurology and neurosurgery and is still a world leader in neurological research. With Dr. Wilder Penfield's demonstration years ago that certain types of epileptic seizure which could be localized to specific regions of the brain could be successfully treated surgically by removal of the epileptogenic area, it became imperative to develop an effective means of localizing precisely the epileptogenic region.

Dr. Pierre Gloor, Dr. Ivan Woods and Mr. John Ives, all of the MNI, are concerned principally with two types of patient: those in whom seizures are usually of a generalized and non-convulsive nature ("absences" attacks – fits of blankness of mind); and partial cerebral seizures, often ending in a generalized convulsion, which have become a seriously disruptive factor in their lives – these seizures can usually be traced to a specific region of the brain which may or may not be removable. Minor seizures of this type may merely consist of a hallucination, a brief spell of dizziness or convulsive movement restricted to one limb. They are also interested in a third group who suffer from fits of dizziness or fainting spells but whose causes may not be due to abnormal brain activity. They have recently developed three telemetry systems for monitoring seizures, all of which have considerable advantages over former methods.

New technique

The most elaborate of these is a 16-channel system that is particularly useful for monitoring some of the more serious patients for whom neurosurgical treatment is a possible solution. Twenty-one small surface electrodes, similar to those used with the EEG, are placed on the patient's head and are located so as to cover as many regions of the brain as possible. The wires from these electrodes lead to a small box (about a 2-inch cube) bandaged to the patient's head and containing 16 amplifiers and a multiplexing system. The box also provides protection against picking up distortions caused by head movement which could affect signals coming from the brain. The multiplexer combines the signals from the 16 channels so that only one cable leaves the box on the head. This connects with a battery pack worn on the patient's waist. From this extends a thin flexible cable about 30 feet long plugging into a wall relay box which is linked to a computer in the Institute. There are wall boxes in several rooms so that the patient can move freely within a radius of 30 feet, and may also "unplug" himself if necessary and plug himself in again in another room. When the signals from the cable reach the computer they are "demultiplexed" – i.e. the 16 individual channels are separated once more – and