

not only Ugandan radar, but the radar of countries that Israeli planes crossed *en route*. This explains why Israeli planes were able to reach Entebbe undetected.

The device sends out electronic rays to alter the natural composition of the magnetic fields and centres of gravity of weapons, instrument dials and mechanical devices. It sounds impossible, but Hurwich himself says that this is less an invention than "a different application of an old and basic principle of electronics".

Canadian beginnings

His invention appears to have grown out of a modest battery-run instrument that he developed eight years ago to help the Canadian police to foil bank robberies. In 1969, he invited Canadian policemen to a viewing. With the instrument concealed in the same room, he invited them to try to lift bags of money. The bags appeared to be riveted to the ground, and moreover, the police gun triggers jammed and their watches stopped. A year later, Hurwich got the idea that his ray could save lives by stopping the timing mechanisms. He offered it to Israel.

When Israeli representatives came to see him, he told them that he was unable to press ahead with the research to develop his invention himself, since he had

just received open-heart surgery. But he was convinced that his invention could be advanced and made powerful enough to neutralise complete weapons systems over large areas. On the Hurwich principle, there was no reason why the new beams could not reach and disable tanks, ground-to-ground missiles and complete radar systems, or even objects in the atmosphere. The beams could also be tacked together to form a screen that would make whole zones safe from bombs or missiles.

The Israelis will not divulge what tests have been run, or how the Hurwich ray has been developed. The first inkling of its existence was obtained after the Entebbe operation, by military experts curious to find out how the Israeli planes were able to fly to their destination without a single radar instrument in the Middle East and Africa being alerted, and why, as they approached Entebbe airfield, electricity was mysteriously cut and the control tower stopped functioning. Indeed, the operators of Entebbe control tower were the first to be punished by Idi Amin after the Israeli mission succeeded: he had them executed after they defied belief by pleading that all their detection, reception and transmission instruments had locked "as though by magic".

Gabonese President visits

The President of the Gabonese Republic, El Hadj Omar Bongo, visited Canada from October 20 to 23, accompanied by his wife.

On October 21, the President signed an agreement in principle with Export Development Corporation chairman and president John A. MacDonald to establish a \$150-million line-of-credit with Gabon. Further discussions will be held soon between officials of both countries to determine the type of goods and services that can be transacted under the line-of-credit pact, which first must be ratified by the EDC board of directors.

During his stay in Ottawa, the Gabonese head of state, who is also the President of the Organization for African unity, held discussions with various Canadian authorities, on the subject of Canada-Gabon relations, stressing the commercial and the *francophone* aspects, and the broader questions of economics and international politics.

Paddle your own canoe

The estimated travelling time between Vancouver and Montreal is two years — by canoe, that is. Jerry LaChappelle, 34, of Montreal, and his cousin, Denis Bilo-deau, 22, of Quebec City, have undertaken a 24,100-mile Odyssey, paddling along the Pacific coast, circling Cape Horn and returning *via* the Atlantic and the St. Lawrence River. The pair set out from Vancouver in July and, by the end of September, had travelled 2,100 miles to Long Beach, California.

"Everybody says it's impossible," said LaChappelle, "nothing's impossible." Although the canoeists will be entering the territorial waters of 11 South American countries during the trip, they are not concerned about possible attempts by these countries to halt their voyage. They plan to get by with a "grass-roots" diplomacy, or rather, with sailsmanship. "I don't carry arms, I don't care about politics and I don't discuss religion," states LaChappelle, "I'm Canadian."

International energy research agreements signed

Canada signed three new energy research agreements with member International Energy Agency (IEA) countries in Paris on October 6. (See *Canada Weekly*, Vol. 5, No. 38, September 21.)

Energy Minister Alastair Gillespie, who chaired a ministerial IEA meeting, signed the agreements on hydrogen, wind and fusion research. This will bring to ten the number of agreements in which Canada participates.

The co-operative research agreements on hydrogen, carried out under IEA auspices, will assess the role of hydrogen as an energy source and energy carrier. The agreement was also signed by representatives of Noranda Mines Limited and the Electrolyser Corporation, two companies active in research into methods of extracting hydrogen from water by electrolytic procedures, and the first two private companies to participate in the IEA research and development program. Further joint studies are expected to be initiated in the coming months.

NRC wind turbine

The National Research Council will participate in the other two agreements signed by Mr. Gillespie, by investigating the environmental and meteorological aspects of converting wind energy to electricity and evaluating computer models for the selection of wind turbine sites.

NRC's vertical axis wind turbine, erected in the Magdalen Islands with the co-operation of Hydro Quebec and Dominion Aluminum Fabricating Company, has been operating since July. (See *Canada Weekly*, Vol. 5, No. 31, August 3.) With a capacity of 230 kilowatts, it is the largest vertical axis wind turbine yet built.

NRC will also co-ordinate the participation of Canadian scientists in the design of and access to a large-scale plasma tested device which will be built by EURATOM and the West German Government near Aachen. The project involves the study of plasma wall interactions and is expected to produce information on the development of materials capable of withstanding the powerful forces and very high temperatures occurring in future fusion power reactors.

Canada recently joined four IEA projects on coal research and one each on conservation, nuclear safety and fusion.