the dot

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ROGER DUHAMEL F.R.S.C., QUEEN'S PRINTER AND CONTROLLER OF STATIONERY, OTTAWA, 1967

ROGER DUHAMEL M.S.R.C., IMPRIMEUR DE LA REINE ET CONTRÔLEUR DE LA PAPETERIE, OTTAWA, 1967

GIANT
new headquarters to

A $35,000,000 building with twin towers rising 21 stories above ground level is expected to become the new headquarters of the Department of Transport by 1972.

About 6,300 people will work in the giant new building, to be built near the centre of Ottawa and flanked by two bridges and the Rideau Canal.

Of the 6,300, about 2,600 will be strictly D.O.T. employees. Other tenants will include personnel with Treasury, Translation, Queen's Printer, Health Unit and the new Transportation Commission.

The remainder of the space will be occupied by others on a time basis to eventually provide expansion space for Transport and related units which will form the new concept of transportation headquarters for Canada.

The new building, its tall towers located at diagonal corners, is expected to contain as many as 30 elevators and two mechanical mail conveyors (one in each tower), and provide 1,070,000 gross square feet of fully air-conditioned space.

An adjacent parking garage connected to the building by a walkway will be able to accommodate approximately 700 cars.

The first D.O.T. employees are expected to begin moving into the building by mid-1971. It will be completely occupied by Transport in 1972 and full occupancy is expected in 1973.

The site is bounded on the north by the Mackenzie King Bridge, on the east by Nicholas Street, on the south by the Laurier Avenue Bridge, and on the west by Colonel By Drive, which skirts the eastern bank of the Rideau Canal.

It will be the first construction in what is known as the East Bank Development which is a portion of the master program for development of the national capital area.

At present, the Department is scattered in six buildings around Ottawa in addition to a number of air services staff located at Ottawa International Airport.

The six buildings are the Hunter Building, Number Three and Number Four temporary buildings, the Trafalgar Building, the Garland Building and a building at 340 Queen St. containing stationery stores.

Detailed plans and sketches of the new headquarters building, including a scale model of it, have been presented to Transport Minister J. W. Pickersgill by the consulting architects for the project, John B. Parkin Associates, an international firm with headquarters in Toronto.

The building will be built by the Department of Public Works.

be built for d.o.t.

The scale model of the proposed new headquarters building for the Department of Transport is shown above in a view from the side. In the foreground is the Mackenzie King Bridge. The Laurier Avenue Bridge is on the opposite side of the building and Colonel By Drive and the Rideau Canal are on the right. The 700-car parking garage can be seen connected to the main part of the building by means of a walkway. When completed, the building will become transportation headquarters for Canada.

Cette photo nous fait voir la maquette du nouvel immeuble du ministère des Transports. On prévoit que l'édifice sera mis en chantier dans un avenir rapproché et la construction achevée vers 1972. Au premier plan, on aperçoit le pont Mackenzie King. De l'autre côté de l'immeuble se situe le pont de l'avenue Laurier, et, à droite, la promenade Colonel By et le canal Rideau. Le garage de stationnement pour quelque 700 automobiles est relié à la partie centrale de l'immeuble par une promenade.

Un immeuble à la fois vaste et imposant, comportant des tours jumelées, disposées en diagonale et hautes de 21 étages, deviendra vers 1972 le nouveau siège du ministère des Transports.

Cet immeuble, qui coûtera 35 millions de dollars, s'élèvera près du centre d'Ottawa et sera longé par deux ponts et le canal Rideau. Il abritera un personnel d'environ 6,300 fonctionnaires, dont 2,600 du ministère des Transports.

Il logera également le Service de traduction, le Bureau du Trésor, l'unité sanitaire et la nouvelle Commission canadienne des transports, ainsi que des employés de l'Imprimerie nationale.

Le reste de l'espace sera occupé temporairement par d'autres services qui, éventuellement, devront déménager au fur et à mesure que le ministère des Transports et les organismes connexes prendront de l'expansion.

L'immeuble contiendra 30 ascenseurs et deux transporteurs mécaniques de courrier (un dans chaque tour), et ses locaux climatisés offriront une surface brute de 1,070,000 pieds carrés.

Un garage de stationnement relié à l'immeuble par un passage pourra recevoir environ 700 voitures.

L'emménagement des fonctionnaires du ministère des Transports commencera au milieu de 1971 et se terminera en 1972. L'immeuble sera entièrement occupé en 1973.

L'emplacement est borné au nord par le pont Mackenzie King, à l'est par la rue Nicholas, au sud par le pont de l'avenue Laurier et à l'ouest par la promenade du Colonel By qui longe la rive est du canal Rideau.

La construction du nouvel immeuble représentera les premiers travaux exécutés dans le cadre de l'aménagement de la rive est qui s'intègre dans le plan directeur d'aménagement de la région de la capitale nationale.

A l'heure actuelle, les services du Ministère sont installés dans six immeubles d'Ottawa et certains employés des Services de l'Air sont à l'aéroport international d'Ottawa.

Les six immeubles en question sont l'immeuble Hunter, les immeubles temporaires nos 3 et 4, l'immeuble Trafalgar, l'immeuble Garland et un immeuble situé au 340 de la rue Queen qui abrite les fournitures de bureau.

Les plans et esquisses de détail et la maquette du nouvel immeuble ont été présentés à l'honorable J. W. Pickersgill, ministre des Transports, par les architectes-conseils, John B. Parkin Associates, maison internationale dont le siège se trouve à Toronto.

L'immeuble sera construit par le ministère des Travaux publics.

le nouvel immeuble du ministère des transports

THE MANY ROADS TO expo67

by Bryan Goodyer

Information Services Division

At the $21,000,000 Canadian government pavilion at Expo 67, engineers are completing final tests on three radio-controlled ship models which form part of the Department of Transport display.

At the same time, D.O.T. air services personnel at nearby Montreal International Airport and at the Canadian Forces base at St. Hubert, Que., are awaiting a record number of planes and passengers expected to arrive this summer.

Both groups represent transportation, an ingredient critical to the success of the exposition billed as "the world in a thousand acres," the gigantic Canadian Corporation for the 1967 World Exhibition.

From opening day on April 28, the first of an expected 10,000,000 visitors are expected to start streaming into Montreal at the rate of 145,000 a day and at 350,000 a day during the peak summer months of July and August.

"They'll be coming by car, bus, subway, train, plane, bicycle, motorcycle, boat, luxury liner, helicopter and even by hovercraft," said an Expo executive.

"We expect some will walk and maybe even a few will swim to Expo," he added, looking out at the site across the wide St. Lawrence River where workmen were hurrying final preparations for the six-months-long extravaganza.

Getting visitors to Expo is a job that not only involves every aspect of the Canadian transportation network but a large part of the world's travel facilities as well.

At Montreal International Airport, the Department of Transport is anticipating an increase of between 15 and 20 per cent in the volume of passengers passing through the terminal during Expo since a number of the 10 trans-Atlantic airlines now flying into Montreal once a week are planning daily service.

With this in mind, facilities at St. Hubert have been set up so that Expo visitors may land and park their private aircraft, clear customs and immigrations installations if they are from outside the country, then drive or take a bus to the Fair site, 15 miles from the airport.

There are also a number of alternative landing strips in the Montreal area, including St. Jean, 25 miles south of Montreal, and at St. Jovite and Trois-Rivières, both north of the city and both with regular bus service available to fair-goers.

Many people will arrive at Montreal, the world's largest inland port, by passenger liner.

The majestic "France," at 66,000 tons the largest passenger ship ever to have sailed the St. Lawrence, will tie up at Quebec City on May 9 and July 18.

The 43,000-ton "Michaelangelo" will call at Genoa, Cannes and Gibraltar before docking in Quebec on May 29.

Both ships will be used as floating hotels, their passengers being taken to and from Expo by bus during their stay since the draughts of the ships are too deep to allow them to sail to Montreal.

Canadian Pacific's "Empress of Canada" and "Empress of England" will make 25 calls to Montreal from Liverpool during Expo.

Hundreds of other visitors are expected to arrive aboard private yachts and pleasure craft. Advance reservation for berthing space at the Expo marina is heavy and D.O.T. is handling dozens of requests for information from small craft owners across North America.

Of the estimated number of visitors, 80 per cent, or 8,000,000, are expected to drive to Montreal, a fact that spurred an immense road building program covering 392 miles and costing more than $400,000,000.

To handle all these cars, Expo had to build a number of parking lots adjacent to the site. Among the larger, one has a capacity of 13,000 cars and a second can handle 10,000.

In Canada and the United States, about 1,265 bus companies plan to expand their services to Montreal and to organize special package tours during the Fair.

In a pool service with Colonial Coach Lines, Greyhound Bus Lines will operate three buses from Calgary every day across the prairies and Northern Ontario to Montreal in a trip that will take 51 hours.

During the daylight hours, a bus will leave New York for Montreal every hour.

Canadian National Railways is adding an advanced turbotrain to its Montreal-Toronto run that will cut the travelling time to four hours between the two cities.

Canadian Pacific has announced that it will operate a second transcontinental passenger train in addition to "The Canadian." To be called the "Expo Limited," it will leave Vancouver every day at 10 p.m., arriving at Toronto 77 hours and 45 minutes later.

Once visitors have checked into a hotel or other accommodation, they can reach the Expo grounds by city bus, taxi, or by Montreal's gleaming new subway, the "Metro."

Place d'Accueil, Expo's main entrance, is only five minutes from the city's hotel district.

On the site, Expo's mass transit system, the Expo Express, will whisk visitors to the four main areas of the exhibition. The silver-colored, air conditioned cars of the electric express can handle as many as 30,000 passengers an hour.

Every 2½ minutes, a sleek Expo Express will leave the main entrance and travel the 3½ miles of track in roughly 10 minutes.

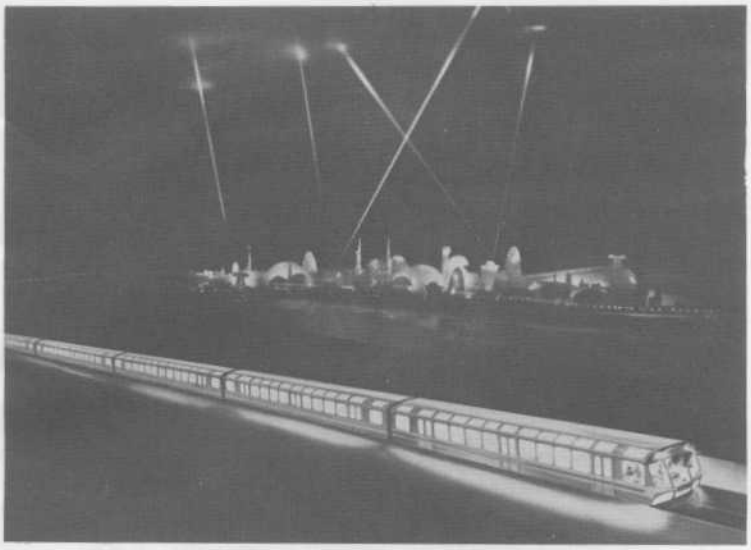
Other transit systems on the site include a minirail network on which small open trains run beside, between and even through some pavilions. Trackless trailer trains which resemble caravans and small pedicabs operated by students will roam the grounds.

Plying the site's canals, lagoons and waterways will be an assortment of ferries, sampans and gondolas.

A 38-passenger hovercraft will skim over the water on a cushion of air at 50 knots between a special landing ramp at the downstream end of St. Helen's Island and one at Harbour City, which is near the main Expo entrance.

Passengers arriving at Montreal International Airport may also be able to reach Expo by helicopter. A landing pad for the regularly-scheduled service will also be used for short flights around the perimeter of the exposition.

As one observer summed it up: "If there are any radically new types of transport invented between now and opening day, you can be sure they will be used to carry people to and from Expo."



Expo Express links pavilions with the amusement and park areas at the 1967 World Exhibition in Montreal. Fully air-conditioned cars with panoramic windows can handle up to 30,000 passengers an hour in each direction on a 3½ mile track. There is no charge on Expo Express and visitors may use the system as often as they wish.

Les visiteurs de l'Exposition universelle de 1967 peuvent se déplacer gratuitement, de façon rapide et aussi fréquemment qu'ils le désirent, entre les différents secteurs de l'Expo. Ils le font à bord d'un Expo-Express commode, attrayant, mû à l'électricité et construit au Canada. Expo-Express constitue l'élément le plus important d'un réseau complexe de transport rapide prévu pour l'Exposition et qui est le plus moderne de son genre au monde.

TOUS LES CHEMINS MÈNENT À L'expo67

par Bryan Goodyer

Division des services d'information

Au pavillon du gouvernement canadien à l'Expo '67, dont l'aménagement coûtera 21 millions, les ingénieurs effectuent les derniers essais des trois modèles de navires télécommandés qui font partie de l'étalage du ministère des Transports.

Pour sa part, le personnel des Services de l'Air du ministère des Transports à l'aéroport international de Montréal et celui de la base des Forces canadiennes de Saint-Hubert (P.Q.) se préparent à recevoir un nombre sans précédent d'avions et de passagers.

Ces deux groupes d'employés sont rattachés au domaine des transports, un élément de souveraine importance dans la réussite de l'exposition organisée par la Compagnie de l'Exposition universelle canadienne de 1967 et qui présentera "le monde entier circonscrit dans une superficie de mille acres".

Dès l'ouverture de l'Expo, le 28 avril, arriveront à Montréal les premiers des 10 millions de visiteurs attendus au rythme de 350,000 par jour durant les mois de juillet et d'août et de 145,000 par jour au cours des autres mois.

"Ils arriveront par voiture, autobus, métro, train, avion, bicycle, motocyclette, bateau, paquebot de luxe, hélicoptère et même par hydroglisseur", a déclaré un dirigeant de l'Expo.

"Certains viendront à pied et même quelques-uns traverseront à la nage", a-t-il ajouté en contemplant l'emplacement situé de l'autre côté de la large étendue du fleuve Saint-Laurent où les travailleurs se hâtaient de terminer les derniers travaux préparatoires à la tenue de cette spectaculaire manifestation qui se prolongera pendant six mois.

Le transport des visiteurs à l'Expo sera assuré non seulement par l'ensemble du réseau de transport du Canada mais aussi par une grande partie des moyens de transport du monde entier.

Le ministère des Transports s'attend que le volume des passagers qui passeront par l'aéroport international de Montréal durant l'Expo augmentera de 15 à 20 p. 100; de fait, certaines des dix compagnies de transport aérien transatlantique qui exploitent à l'heure actuelle un service hebdomadaire jusqu'à Montréal projettent d'inaugurer un service quotidien.

On a donc établi à l'aéroport de Saint-Hubert des installations permettant aux visiteurs de l'Expo d'y poser et d'y stationner leurs avions privés, de satisfaire aux formalités de la douane et de l'immigration s'ils viennent de l'extérieur du pays et de se rendre par voiture ou par autobus à l'Expo, distante de quinze milles.

Il y a également dans la région de Montréal d'autres bandes d'atterrissage que les avions pourront emprunter, notamment à Saint-Jean, à 25 milles au sud de Montréal, ainsi qu'à Saint-Jovite et Trois-Rivières, situés au nord de la ville et dotés d'un service d'autobus régulier qui sera à la disposition des visiteurs.

Plusieurs visiteurs se rendront à Montréal, le plus grand port intérieur du monde, par paquebot.

Le majestueux FRANCE, qui jauge 66,000 tonneaux et qui sera le plus gros paquebot à avoir remonté le Saint-Laurent, accostera à Québec le 9 mai et le 18 juillet.

Le MICHAELANGELO, de 43,000 tonneaux, fera escale à Gènes, à Cannes et à Gibraltar avant de jeter l'ancre à Québec le 29 mai.

Ces deux navires qui, en raison de leur fort tirant d'eau, ne pourront se rendre à Montréal serviront d'hôtels flottants et leurs passagers feront le voyage aller-retour à l'Expo par autobus au cours de leur séjour.

L'EMPRESS OF CANADA et l'EMPRESS OF ENGLAND, exploités par le Pacifique-Canadien, accompliront 25 voyages entre Montréal et Liverpool durant l'Expo.

Des centaines d'autres visiteurs sont censés se rendre à l'Expo à bord de yachts et d'embarcations de plaisance privés. La réservation de postes à quai au port de plaisance de l'Expo est déjà considérable et le ministère des Transports répond à des douzaines de demandes de renseignements de la part de propriétaires d'embarcations de toute l'Amérique du Nord.

80 p. 100 des visiteurs, soit 8 millions, sont censés se rendre à Montréal en automobile, ce qui a hâté la réalisation d'un vaste programme de construction de routes sur une longueur de 392 milles et dont le coût s'élèvera à plus de 400 millions.

La Compagnie de l'exposition a dû construire à proximité de l'emplacement de l'Expo des terrains de stationnement dont un d'une capacité de 13,000 voitures et un autre de 10,000.

Environ 1,265 compagnies d'autobus du Canada et des États-Unis projettent d'étendre leurs services jusqu'à Montréal et d'organiser des voyages spéciaux tout compris durant l'Exposition.

Les *Greyhound Bus Lines* assureront un service en commun avec les *Colonial Coach Lines*. Chaque jour, trois autobus partiront de Calgary pour Montréal, en passant par les Prairies et le nord de l'Ontario. Le voyage prendra 51 heures.

Durant le jour, un autobus quittera à toutes les heures New York à destination de Montréal. Les chemins de fer Nationaux du Canada mettront en service sur le parcours Montréal-Toronto un turbo-train moderne qui réduira à quatre heures la durée du parcours entre les deux villes.

Le Pacifique-Canadien a annoncé qu'il exploitera un deuxième train de voyageurs transcontinental en plus du *Canadian*. Ce train s'appellera *Expo Limitée;* il quittera Vancouver à 10 heures du soir, tous les jours, et arrivera à Toronto 77 heures et 45 minutes plus tard.

Une fois que les visiteurs se seront installés à l'hôtel ou ailleurs, ils pourront se rendre sur les terrains de l'Expo par le service urbain d'autobus, par taxi ou en empruntant le tout nouveau Métro de Montréal.

L'entrée principale de l'Expo, la Place d'accueil, n'est qu'à cinq minutes du quartier des hôtels.

Sur les terrains de l'Expo, le service de trànsport en commun sera assuré par *Expo Express* qui amènera rapidement les visiteurs aux quatre principaux secteurs de l'Exposition. Les voitures climatisées de ce train électrique de couleur argent peuvent transporter 30,000 voyageurs à l'heure. A toutes les 2½ minutes, un train aérodynamique quittera l'entrée principale et franchira en une dizaine de minutes les 3½ milles de voie ferrée.

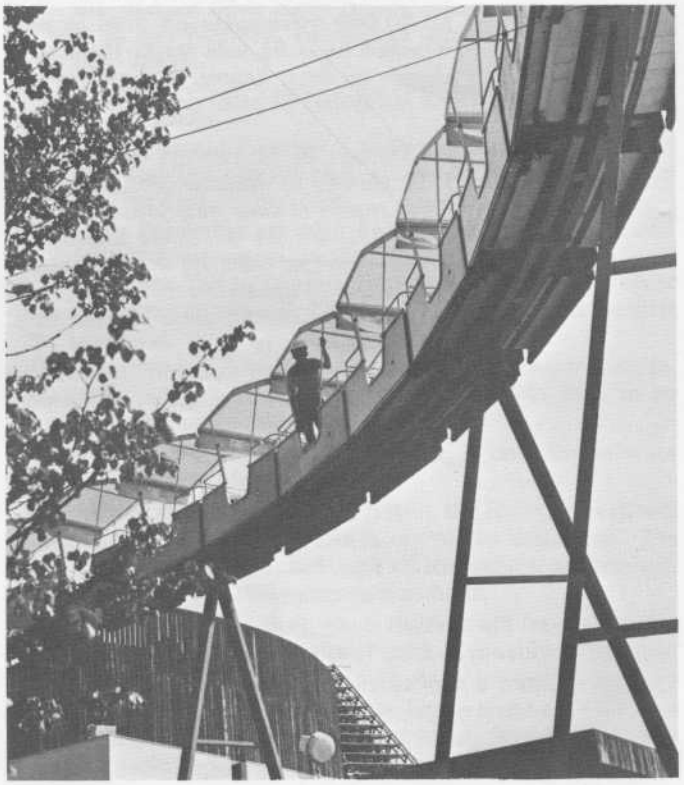
Les autres réseaux de transport sur les terrains comprendront un minirail dont les petits convois de voitures découvertes longeront les pavillons, circuleront entre eux et même les traverseront. Des remorques sur pneus genre caravane et de petits pousse-pousse conduits par des étudiants circuleront également sur les terrains.

Des barques, des sampans et des gondoles de tous genres évolueront sur les canaux, les lagunes et les voies navigables.

Un hydroglisseur, pouvant transporter 38 passagers, effleurera la surface de l'eau sur un coussin d'air à une vitesse de 50 noeuds entre une rampe spéciale de débarquement à l'extrémité aval de l'île Sainte-Hélène et une autre rampe à la cité du Havre, près de l'entrée principale de l'Expo.

Il se peut que les passagers qui débarqueront à l'aéroport international de Montréal puissent aussi se rendre à l'Expo par hélicoptère. Une aire d'atterrissage réservée aux services à horaire fixe sera également utilisée pour des vols de courte durée, permettant aux visiteurs de survoler l'emplacement de l'Exposition.

Voici comment un observateur résumait la question: "Si d'ici l'ouverture de l'Exposition on inventait des moyens de transport révolutionnaires, ils seraient sûrement utilisés pour le transport des visiteurs."



The Mini-rail will make up part of the secondary transportation system on the Expo 67 site. It's a single, elevated rail vehicle with open cars each carrying 12 persons. It is a mono-rail system in miniature.

Le réseau auxiliaire de transport en commun de l'Expo 67 comprendra un "mini-rail". Monorail en miniature, le "mini-rail" comporte des wagons ouverts, pouvant transporter 12 personnes chacun en roulant sur un rail unique.

the d.o.t. at expo

An Expo hostess awaits the fair's opening

From computers to model icebreakers, the Department of Transport has an eye-catching set of displays assembled for the visitor to Expo 67.

Some of the D.O.T.'s major exhibits will include:

—Participation in the Expo 67 Computer Project in the law and government area of the Canadian pavilion.

Here, the idea is to give the visitor the opportunity to work through a series of programmed questions while seated at a typewriter-style keyboard with a video screen in front of him.

In this manner, he will engage in a "dialogue" with the computer on a subject he has chosen from a given list. The overall purpose of the project is to make the visitor aware of the problems involved in the vast field of transportation.

—A marine services display in a 100-foot by 150-foot pool outside the Canadian pavilion.

Here, three working models of Canadian Coast Guard ships, a small lighthouse and a miniature ice mass will demonstrate the D.O.T.'s role in icebreaking.

In a show that will be repeated hourly, a "carrier" will leave a small dock and steam across the pool where she will become jammed fast in the artificial ice, made from cakes of parafin topped with a layer of styrofoam representing snow.

Then the icebreaker, a model of the recently-launched CCGS Louis S. St-Laurent, will leave her berth and cross the pool to clear a path for the carrier through the ice.

While this is going on, a lighthouse supply and buoy-laying vessel will leave for the lighthouse to deliver cargo, lay a buoy and retrieve it before returning to the dock to complete the show.

—A $35,000 installation manned by the Met branch to provide continuous special weather services to the operations control centre on the fair site.

This will include hourly weather observations from the site and from Montreal, short and medium range forecasts for the grounds, and periodic observations from major cities around the world.

To provide the information, an automatic weather observing station will be installed and operated on the site.

Weather bulletins will also be posted on a system of electronic notice boards located throughout the grounds that will include traffic reports and changes in programs for the Expo visitor.

—Air traffic control procedures will share the spotlight in an audio-visual display developed for Expo's "Man the Producer" theme building.

Involved in the display are several groups including the D.O.T. and the International Civil Aviation Organization.

automatic weather stations for the supersonic age

by William Dunstan

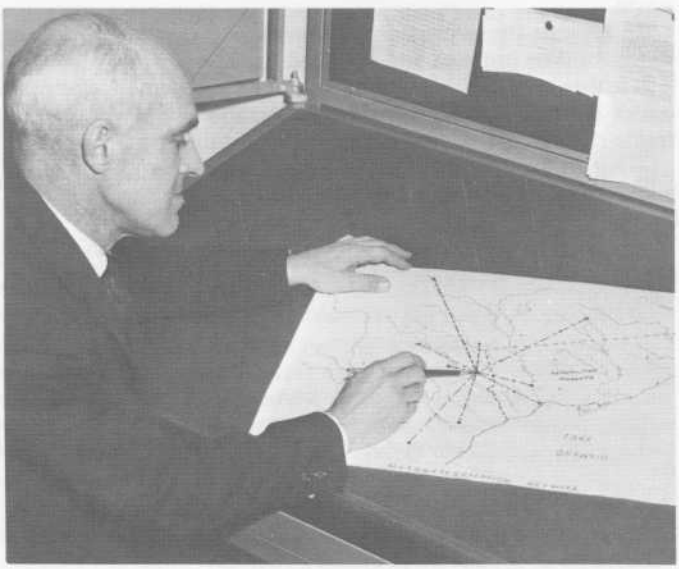
Information Services Division

Five automatic weather stations, to be installed for a total cost of some $250,000, will help D.O.T. prepare ground support for tomorrow's supersonic transports.

When those huge SST's arrow from continent to continent within the next decade, they will need approach clearance while still more than 1,000 miles from target—indeed, clearance even before take-off will eventually be normal procedure. This will demand fairly precise knowledge of what the weather will be like within fractions of an hour. Accordingly, increased attention is being given to mesometeorology, which is concerned with weather changes within distances of miles and tens of miles and, therefore, within a short space of time.

Tenders have been called for the weather stations, which were designed and developed within the Meteorological Branch. These first production-type stations will assist Dr. Joseph Clodman, supervisor of the synoptic and dynamic research units, in a mesometeorological research project which involves the collection of data within the general area of Toronto International Airport.

The automatic weather station was designed by Jay Dickson, an electronic design specialist of instrument division, who also built a test model of the prototype. The stations are instrumented to record cloud cover, visibility, temperature, dew point, wind speed, wind direction, altimeter setting or pressure, and precipitation in 100th inches. Each weather station sends its reports to a recording centre via cable for compilation and analysis. It can be adapted to report by radio if required.



Tom Burling, of the synoptic research unit, shows mesometeorological network.

The project began about four years ago, with Mr. Dickson engaging in design and construction while project management was handled by Henry Belhouse, supervisor of electronic and upper air instruments engineering and research.

Extensive field tests included a three-month trial at Wiarton, Ontario, where the findings of the automatic station were satisfactorily compared with the hourly reports of the aviation station located there.

Delivery of the five stations likely will not occur before next fall, by which time the test model will have performed a very useful service. It is to be installed at Expo 67 from where it will submit regular weather reports for the information of those who plan to attend Canada's world's fair.

But back to Dr. Clodman, who already has experimented with regular observations from various points in the testing area. Similar studies have been made elsewhere, he says, but in other cases the recording stations were placed at regular intervals throughout the area concerned, while physical features of the terrain were largely ignored. He considers that local features—topography, bodies of water and urban effects, for instance, have considerable bearing on short-term weather forecasting. He has, therefore, set up stations where such features may be expected to make appreciable local changes in weather.

Local influences are only part of the picture, of course. In scientific parlance, Dr. Clodman hopes that the network will provide "information on the physical mechanisms which are involved in the interactions between synoptic scale processes, meso-scale eddies and local influences."

It is possible that these automatic weather stations will have a wide application. A number of proposals has already been made by regional offices as to their field operational use.

The introduction of the automatic station is not without new problems of its own. For years, the definition and coding of many weather quantities have been based upon the discretionary are powers of the human observer. The automatic station, on the other hand, makes precise and objective measurements that do not involve judgment and in some cases these must be defined and coded in a different way.

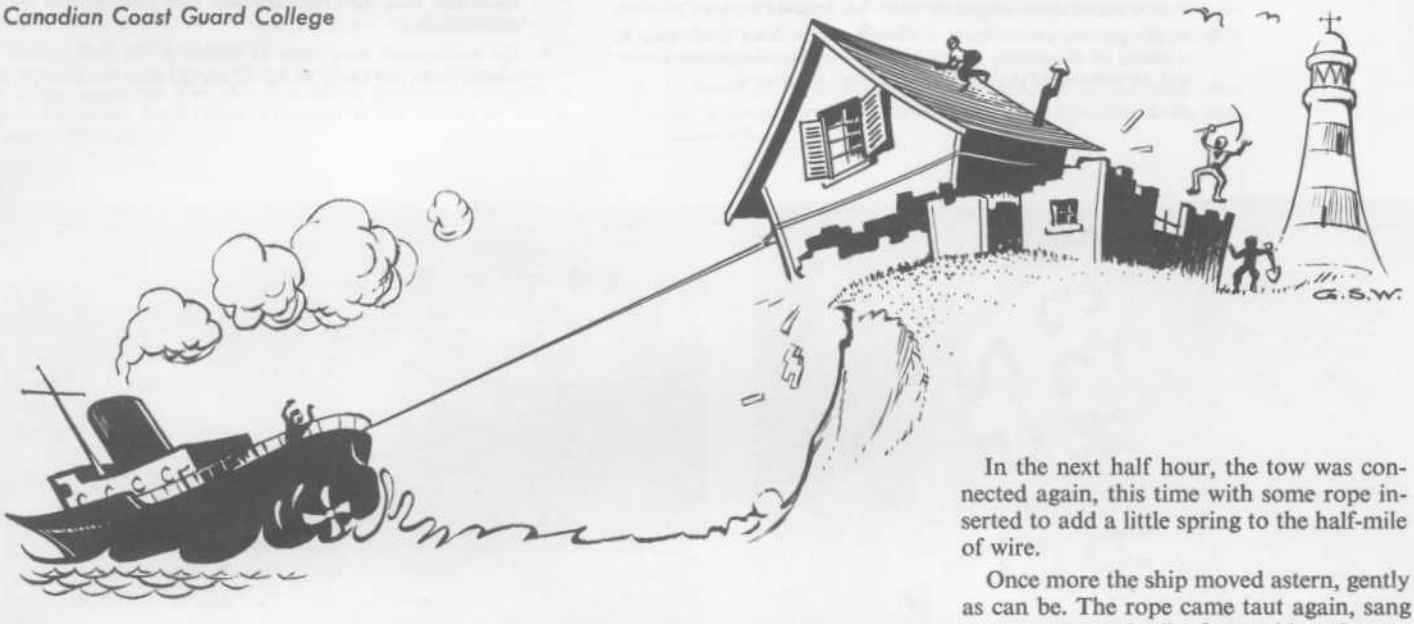
This problem was one of the main topics of discussion at a world conference in Geneva recently, attended by both Mr. Dickson and Mr. Belhouse. The attitude taken was that there are obvious limitations in the duplication of all human accomplishments by machine and this should not necessarily be the goal to pursue. Since the automatic station does perform certain functions reliably and well, procedures should be adapted to take advantage of the benefits it can offer.

Only continuous research can broaden the scope of usefulness of the automatic weather station. Whatever the outcome, it is certain that the knowledge necessary to improve short-term weather forecasting is increasing through this and other research projects. Some of what is learned today may keep many a supersonic aircraft out of trouble tomorrow.

DEMOLITION
coast guard style

By P. R. Toomey

Cadet Supervisor
Canadian Coast Guard College



The following article, which tells the rather unusual story of how CCGS "Sir William Alexander" demolished a house near Lunenburg, N.S., is taken from The Dolphin, published by the cadets of the Canadian Coast Guard College at Point Edward, N.S.

Among the many and varied facets of Canadian Coast Guard operations, one of the least known but most entertaining is that of a certain demolition job.

One immediately thinks of sticks of dynamite, bulldozers and swinging iron balls, but the Coast Guard is far more original than that.

This story began when a new light was erected on Cross Island, one of the outer islands guarding the port of Lunenburg, N.S.

The new tower was erected right alongside the vacant house of the lightkeeper this being a better location than the old one. The only problem was that the old wooden house masked the new light and it was obvious that the building would have to come down.

CCGS "Sir William Alexander" had the assignment of erecting the new light, so it fell to her to tackle the problem presented by the old building.

It was summertime and, as has been known in those waters from time to time, foggy. The ship lay at anchor off the landing while its crew went ashore to begin the task of dismantling the house, armed with the traditional crowbars, axes and power saws.

Although everyone worked hard and a good time was had by all, it seemed when the fog lifted the next morning that the house looked almost the same as it had the day before.

Overnight, however, some thinking had been going on and an idea had come to someone along with the clearing weather needed to put it into action.

The crew set off again, armed as before, but taking with them this time almost all the heavy mooring wires in the ship. They then proceeded to rig a monster sling around the upper storey of the house, leading the hauling part over the cliff and to the water's edge.

At this point, the ship weighed anchor and inched in towards the beach until less than a quarter of a mile off and the ship's barge came out to take the rest of the mooring wires bent together to connect up to the sling around the house.

When the connection had been made and the wire made fast on board, all hands stood back and the ship moved slowly astern. The wire slowly surfaced, drew taut —and suddenly sang like a harpstring and parted!

Round One to the house and the sturdy Lunenburgers who built it.

In the next half hour, the tow was connected again, this time with some rope inserted to add a little spring to the half-mile of wire.

Once more the ship moved astern, gently as can be. The rope came taut again, sang some more and all of a sudden the top storey detached itself and fell in a cloud of dust alongside the rest of the building, which promptly collapsed.

All that remained intact was the roof, where the swallows which had been nesting there continued to feed their young, rather surprised no doubt to find themselves living ranch-style so close to the ground!

From this point, the job was easy. The old tractor from the light station towed the pieces to the edge of the cliff, over which they were dumped to the rocks below. The rest of the site was cleared during the afternoon.

In the evening, a monster bonfire was lit at the foot of the cliff to consume every last piece to prevent it from washing away and playing havoc with fishermen's nets.

It was unfortunate that the swallows should fall victim to eviction, but the new light now shone bravely out from Cross Island as the "Sir William Alexander" steamed away that night, the remains of the slowly dimming bonfire vying with the lighted beacon.

And so another correction had to be made to the charts, notably one new light to add and one old dwelling to subtract.

The operation may even be another "first" for the Canadian Coast Guard, inasmuch as not too many buildings are pulled down by ships at sea, though some are knocked down accidentally.

But that is another story altogether.

The job of maintaining the hundreds of navigational aids that dot Canada's shores is one that demands skill and teamwork from the men of the Coast Guard.

This sequence of pictures shows the crew of CCGS Thomas Carleton during a recent operation in the Bay of Fundy near Centreville, N.S., about 10 miles from Digby.

1. *A replacement buoy on the deck of the Thomas Carleton gets its final markings as the ship, based at Saint John, N.B., steams across the bay toward Nova Scotia.*
2. *Three seamen make final preparations to drop the buoy's anchor, a 10,000-pound chunk of granite which will hold the buoy on position.*
3. *As the gas and whistle buoy, its radar reflector fixed firmly atop it, is placed on its position, the crew prepare to drop the granite anchor and 45 fathoms of chain (about 270 feet) overboard.*
4. *On the bridge, Captain Tony Croft, skipper of the Thomas Carleton, watching reference marks, prepares to order the ship astern as soon as the buoy anchor is dropped.*
5. *Helmsman Eldon Larsen keeps the ship on course during the buoy-laying operation.*
6. *As the ship, having dropped the replacement buoy, eases alongside the old buoy, a half-dozen crewmen grab it with pike poles and get set to hoist it aboard.*
7. *The heavily "bearded" buoy is aboard at last and the crew, under Bosun Bev Titus, turn their attention to taking the first lift on the chain mooring.*
8. *The replacement buoy rides at anchor in the background as the snarled chain and heavy anchor of the old buoy are brought aboard.*

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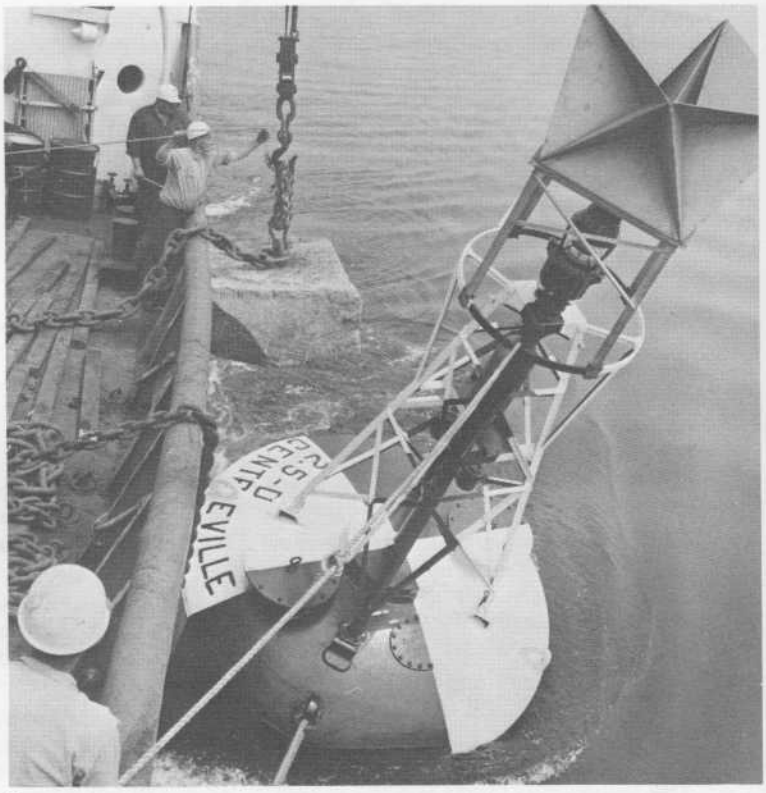

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L'entretien des centaines d'aides à la navigation qui jalonnent les côtes du Canada exige de la part des membres de la Garde côtière du Canada beaucoup d'habileté et de travail d'équipe.

Ce découpage photographique montre l'équipage du n.g.c.c. THOMAS CARLETON à l'œuvre récemment dans la baie de Fundy, près de Centreville (N.-É.), à une dizaine de milles de Digby.

1. *Une bouée de remplacement installée sur le pont du THOMAS CARLETON reçoit ses marques finales tandis que le navire, dont la base est à Saint-Jean (N.-B.), traverse la baie en direction de la Nouvelle-Écosse.*
2. *Trois marins procèdent aux derniers préparatifs avant de jeter l'ancre de la bouée, un morceau de granit de 10,000 livres qui maintiendra la bouée en position.*
3. *Le navire étant arrivé au point que devra occuper la bouée à gaz et à sifflet, surmontée d'un réflecteur radar, l'équipage s'apprête à jeter par-dessus bord l'ancre de granit et 45 brasses de chaîne (environ 270 pieds).*
4. *Sur la passerelle, le capitaine Tony Croft du THOMAS CARLETON surveille des repères et se prépare à ordonner la marche arrière dès que l'ancre de la bouée aura été jetée.*
5. *L'homme de barre Eldon Larsen maintient le navire sur sa route durant le mouillage de la bouée.*
6. *Au moment où le navire, après avoir mouillé la bouée de remplacement, vient longer doucement l'ancienne bouée, une demi-douzaine de membres de l'équipage la saisissent au moyen de gaffes et se préparent à la hisser à bord.*
7. *La bouée «chevelue» est enfin à bord et l'équipage, sous la direction du maître d'équipage Bev Titus, se prépare à exercer la première traction sur la chaîne d'ancre.*
8. *La bouée de remplacement est au mouillage à l'arrière-plan, alors que la chaîne emmêlée et la lourde ancre de l'ancienne bouée sont hissées à bord.*

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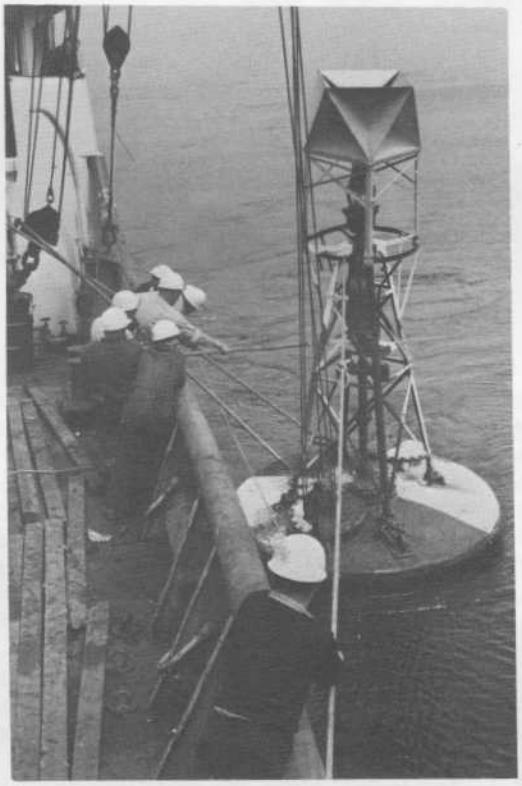

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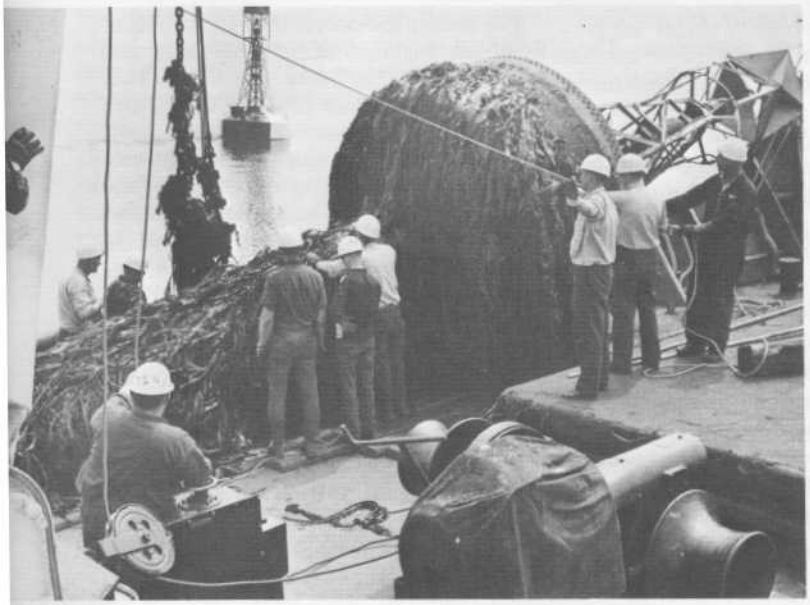

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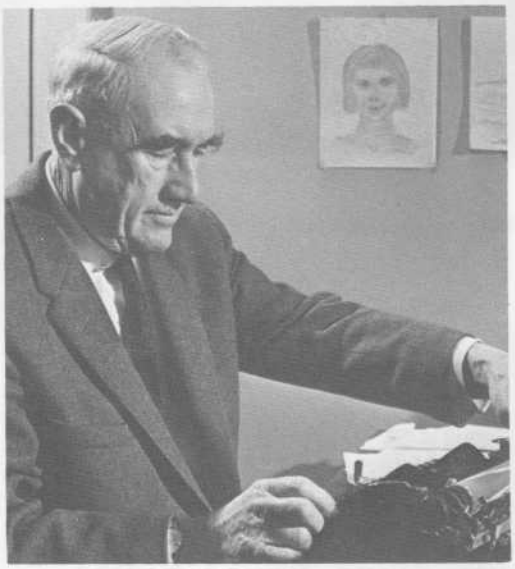
safety marker replaced in bay

remplacement d'une bouée-balise de sécurité dans la baie

the canoe in commerce

by J. R. K. Main

This is the first of a Centennial series on early transportation in Canada, written especially for "The DOT" by J.R.K. Main, a former director of civil aviation. Mr. Main's book, "Voyageurs of the Air," a history of civil aviation in Canada, is being published by the Department of Transport as a Centennial project.



The canoe, particularly the birch bark canoe, is the oldest commercial conveyance used in Canada. There were other types of canoes, such as the Iroquois one, which was made of elm bark. But it was heavy, sluggish, and had none of the lithe responsiveness of the birch bark creation of the Algonquins. And some of the West Coast tribes turned out magnificent dugout canoes or pirogues—some of them 40 feet long. These could venture into rougher water than the birch canoe but, lacking its ease of handling and its weight, could not be used on a portage.

The Indian, before the white man imposed new ways upon him, was a hunter, not a trapper. And as a hunter, his patrician soul knew nothing of commerce. The canoe, therefore, was used chiefly for social occasions such as scalping parties, replenishing the tribe with squaws, friendly visits between chiefs, and so forth. But the beaver pelt lured him from his rugged Eden. He became a trapper, trading pelts for pelf, and the pliant canoe became a beast of burden.

There are a few first hand accounts of the making of these canoes:

". . . they sought the largest birch trees they could find. They removed the bark in lengths for the canoe, which was three to four fathoms and a half (that is, from 18 to 27 feet in length). The breadth was about two feet in the middle and always diminished towards the two ends, falling away to nothing. The depth was such that for a man seated it came up to his armpits.

The lining inside for strengthening it was of slats, of the length of the canoe and some four inches broad, lessening towards the ends in order that they might match together. On the inside, the canoe was lined with them completely, as well as all along it from one end to the other.

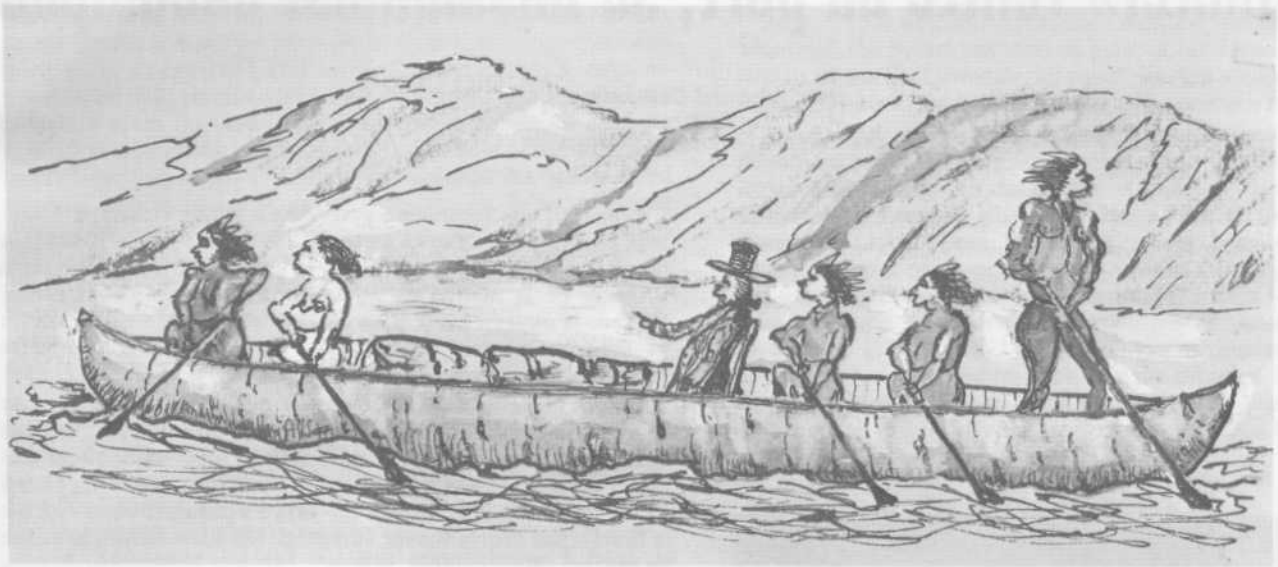
These slats were made of cedar, which is light, and which they split in as great length as they wished, and also as thin as they pleased.

They also made from the same wood half-circles to form ribs and gave them their forms in the fire.

For sewing the canoe, they took roots of fir of the thickness of the little finger and even smaller; they were very long. They split these roots into three or four parts, that is the largest ones. These split more easily than the osiers used in making baskets. They made these into packages, which they placed in the water for fear they might dry up.

Also necessary were two sticks of the length of the canoe, entirely round and of the thickness of a large cane, and four other shorter sticks of beech. All these things being ready, they took thin bark and bent and fixed it in the form the canoe should have. Then they placed the two long pieces all along and sewed them to the rim inside with these roots.

To sew, they pierced the bark with a punch of pointed bone and passed through



the hole and end of the wicker, drawing and tightening the stick as closely as they could against the bark and always enwrapping the stick with the wicker so that they were in contact with one another.

The sticks being well sewed on all along, they placed the smaller pieces of beech crosswise, one in the middle, entering at its two ends into holes made in the pieces with which the canoe is rimmed, and three others in front of it, distant a half fathom from one another, which lessened in length with the shape of the canoe. Three others also were placed backward at the same distances.

All these pieces entered at their ends into holes which were made in the pieces sewed all along the canoe, to which they were so firmly attached on both sides that the canoe could neither enlarge nor narrow.

Then were placed in position those big slats with which they lined all the interior of the canoe from top to bottom, and they were all made to touch one another. To hold them in place, they put over them those half-circles, the ends of which were brought to join on both sides below those pieces which were sewn all around on the top. They drove these in with force, and they lined all the canoe with them from one end to the other. This made the canoe stiff to such a degree that it did not yield at any point.

There were seams in it, for in order to narrow it at the two ends, they split the bark from above downwards. They then overlapped the two edges one over the other and sewed them.

But to prevent the seams from admitting water, the women and girls chewed the gum of the fir every day until it became a salve which they applied by aid of fire all along the seams and this tightened them better than pitch.

All this being done, the canoe was finished and it was so light that a single man could carry it on his head."

For well over a century before Confederation, furs were brought into Montreal and Hudson Bay from all of Canada (apart from the Maritimes) east of the Rocky Mountains.

As the supply of beavers diminished, the trappers went further afield. Cargoes of furs are known to have reached Montreal from as far west and north as the Liard and Nahanni River basins in the Yukon. The Mackenzie, with its mighty tributaries, the Peace and the Athabasca, the watershed of the Hudson Bay and the Prairies, drained by the Saskatchewan, were all linked to the Great Lakes and the St. Lawrence by the canoe. The Canadian Pacific Railway merely put the seal of approval on what the canoe had already affirmed.

The rules of procedure, enforced by some of the traders, would not, one hopes, have been approved by D.O.T. One journal casually recounts the loss of a steersman who, as usual, was standing in the stern of a canoe working its way up a swift and treacherous stretch of water. He lost his balance and fell in. A new steersman was hastily appointed and the crew without pause continued to fight the current—too engrossed to look back at the unfortunate ex-steersman.

However, without another simple and humble device, the stately canoe would have been of limited commercial value. That last badge of servitude, the "tump-line" (don't bother to look in the dictionary unless it is a Canadian publication) was needed to carry cargoes over a portage.

The tump-line was a cat's cradle of leather or rawhide thongs fitted over, but not tied to, the back of the engagé (carrier or porter). The bundles comprising the cargo were laid in this sling, one upon another, until the load reached well above the engagé's forehead. This called for short, stout legs, thick necks, broad shoulders and receding foreheads.

The device could be quickly disengaged —a helpful consideration in the light of the fact that the loads usually exceeded the weight of the engagé, and any slip might send him and his burden rolling over a rocky ledge. It is not recorded that one engagé ever carried another at the end of a tump-line. Nor does the stretcher seem to have been in common use.

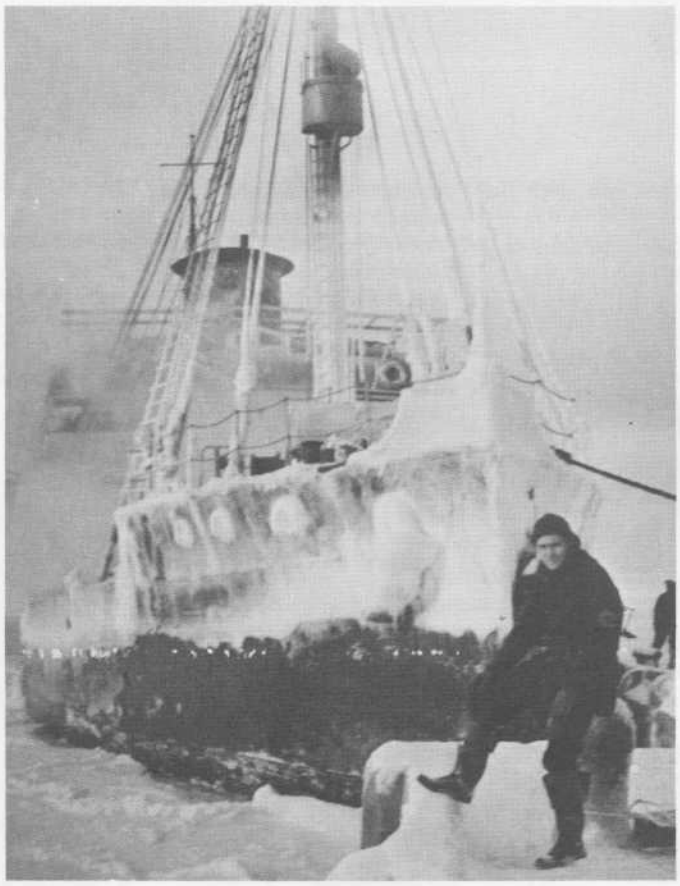
But the canoe was not built to navigate the rough water encountered on the many large lakes. Here the York Boat, that deserves separate mention, enters the picture.

Le «Saurel» rentre au port; sa mission est accomplie

par Edouard Deslauriers

Division des Services d'information

Le «Saurel», un navire qui était jadis l'orgueil de la Garde côtière canadienne, revient au bercail, ces jours-ci, après avoir complété sa dernière mission comme brise-glace dans les eaux du fleuve Saint-Laurent. Maintenant démodé, usé, fatigué, ses ressources épuisées, le «Saurel», de guerre lasse, rentre au port, arborant fièrement le pavillon de la Garde côtière qu'on a vu battre à tous les vents sur ce vieux navire qui, pendant près de 40 ans, a bravé les intempéries dans les glaces du fleuve et du golfe Saint-Laurent, au large de Terre-Neuve et jusque dans l'Arctique.



Le «Saurel», la proue et même le pont recouverts d'une épaisse couche de glace, arrive au quai de Natashquan, en janvier 1947, avec une cargaison de 40 tonnes de vivres et d'approvisionnements pour les habitants de l'endroit. Parti de Charlottetown, Île-du-Prince-Édouard, le 30 décembre 1946, le navire devait faire son chemin dans de la glace solide d'une épaisseur de 18 pouces.

Construit aux chantiers navals de Canadian Vickers, à Montréal, en 1929, le «Saurel» a été officiellement lancé le 30 octobre de cette même année, et, dès le 13 décembre, il était affecté à l'Agence de la marine du ministère des Transports à Québec. C'est de là qu'il est parti, le 10 janvier dernier, pour entreprendre sa dernière mission de déglaçage dans la section du fleuve s'étendant entre Trois-Rivières et Sorel.

Depuis quelques années, on sentait que la fin approchait pour ce vieux navire, autrefois la reine de la flotte du ministère des Transports. Les directives étaient claires: «Le «Saurel» ne doit plus s'éloigner de son port d'attache; on lui confiera des tâches moins ardues dans la section du fleuve s'étendant entre Québec et Sorel». Ses heures étaient comptées. On allait bientôt le mettre au rancart.

De nouveaux brise-glace modernes et plus puissants vont assurer la relève. Certains sont destinés à la patrouille de l'Arctique; d'autres serviront dans les Grands Lacs et le golfe Saint-Laurent. L'un d'eux, le "Louis S. St-Laurent", par exemple, est actuellement en construction aux chantiers de Canadian Vickers, à Montréal. Ce navire à trois hélices, le plus puissant de son genre au monde, sera affecté à la patrouille des eaux de l'Arctique et de l'est du Canada.

Dernier hommage au «Saurel»

Les quelque 40 marins et officiers à bord du «Saurel» font leur adieu au vieux brise-glace en lui rendant un dernier hommage: «Il a fort bien rempli sa mission, n'a jamais failli à la tâche, et l'on a raison d'être fier des services qu'il a rendus à la Garde côtière et au pays tout entier.»

Certains membres de l'équipage sont à bord du navire depuis déjà de nombreuses années. L'un d'eux, entre autres, M. Mathieu Fortin, est officier mécanicien à bord du «Saurel» depuis 1945. C'est à regret qu'il voit disparaître un navire qui, pendant autant d'années, a été pour lui un second chez-soi. «Lorsqu'on a vécu aussi longtemps à bord d'un même navire, dit-il, on ne s'en sépare pas sans ressentir un certain serrement de cœur».

M. Fortin se souvient des tâches difficiles accomplies par le «Saurel» alors qu'il accompagnait les cargos qui, à l'année longue, circulaient aux alentours de Terre-Neuve et de la Nouvelle-Écosse à l'époque où les mines de charbon de Springhill, N.-É., étaient en pleine exploitation. Il fallait frayer des voies dans des amoncellements de glace atteignant deux ou trois pieds d'épaisseur et parfois davantage.

M. Fortin raconte qu'au cours d'un de ces voyages sur la côte du Labrador, le «Saurel» a perdu une hélice alors qu'il se trouvait à plusieurs milles au nord de Goose Bay. Le navire, de peine et de misère, a réussi quand même, sa puissance étant réduite de moitié, à revenir à Halifax, en bousculant boiteusement la glace sur son passage sur une distance d'environ 800 milles. C'est tout de même un exploit assez extraordinaire. «Le «Saurel», d'une jauge brute de 11,769 tonneaux, a 212 pieds de longueur, 42 pieds de largeur et a une profondeur de 21 pieds.

On a souvent entendu les marins à bord du «Saurel» comparer leur navire à un sous-marin. M. Donat Gravel, de Québec, ancien membre de l'équipage et maintenant surintendant

régional des mécaniciens, nous explique que cette comparaison vient du fait que le «Saurel» avait la faculté de «piquer» dans la glace avec une telle facilité qu'il donnait l'impression d'un sous-marin sur le point de disparaître sous l'onde.

Le capitaine George Burdock, qui a commandé le «Saurel» pendant près de cinq ans, a conservé un riche bagage de souvenirs de ses années à bord du brise-glace. Il se souvient particulièrement de la saison 1957-1958 alors que son navire, à deux reprises, s'est fait prendre dans des amoncellements de glace au large des côtes de Terre-Neuve. En une occasion, la glace en formation autour du navire a exercé une telle pression que le brise-glace s'est vu soudain soulever au-dessus des glaces et est demeuré ainsi immobilisé pendant une dizaine de jours. C'était chose assez rare pour le «Saurel» qui, à cette époque, avait la réputation de surmonter les pires obstacles. «Il faut dire que c'était un des pires hivers que j'aie jamais connus», a commenté le capitaine Burdock, qui commande maintenant le brise-glace-câblier John Cabot. La glace, à certains endroits, pouvait atteindre de sept à huit pieds de profondeur et même davantage.

Un navire-école

Le «Saurel», ce fut plus qu'un brise-glace. On s'en est en effet servi comme navire à tout faire, comme baliseur et comme navire de ravitaillement. Mieux encore, ce fut un véritable navire d'entraînement. Nombreux sont les officiers actuels de la Garde côtière canadienne qui ont fait leur apprentissage à bord du «Saurel». Les capitaines Mercier, Blais, Burdock, Gagnon, Fournier, pour n'en nommer que quelques-uns, y ont assumé leurs premiers postes de commande. A cause de la variété des tâches qu'on lui confiait, le «Saurel» se prêtait fort bien à la formation des officiers qu'on destinait au commandement de la flotte du ministère des Transports.

En 1930, la Garde côtière n'avait à sa disposition que trois brise-glace, soit le «Saurel», le «Mikula» et le «Lady Grey». Ces deux derniers ont depuis longtemps déjà été mis à leur retraite. Le «N.B. McLean» était cependant en construction à cette époque, et, à la fin de 1930, il faisait son apparition dans le Saint-Laurent en compagnie des trois autres. Aujourd'hui, la flotte du ministère comprend, entre autres, dix-neuf brise-glace, dont certains sont plus légers et servent plutôt au balisage.

Dès sa première année de service, le «Saurel» a été dépêché à Trois-Rivières, le 3 février 1930, afin de travailler à la prévention des inondations dans le lac Saint-Pierre. Il a accompli ce travail en un temps record, puis il s'est attaqué à la glace dans le fleuve. Le 3 avril de cette même année, il avait réussi à ouvrir un chenal depuis l'entrée du lac Saint-Pierre jusqu'à Montréal. Grâce à son travail efficace, on avait réussi à prévenir les inondations entre Québec et Montréal.

Dans son rapport annuel des opérations de la marine pour l'année 1929-1930, le ministère écrit au sujet du «Saurel»: «Ses services sont extrêmement satisfaisants. Il pénètre dans les champs de glace ordinaire avec une facilité exceptionnelle.» Le rapport précise que le «Saurel», dans la journée du 3 avril 1930, a dû se frayer une voie dans une couche de glace de 20 pouces d'épaisseur s'étendant entre le quai de Verchères et celui d'Imperial Oil, à Montréal, soit sur une distance de 13 milles. Il fonçait dans cette glace à une vitesse de trois milles à l'heure.

Ainsi, dès le début de son existence, le «Saurel» se faisait signaler pour l'excellence de ses services, et l'on peut lire dans les divers rapports du ministère sur la navigation au cours des années 1930, 1931 et 1932 que sans l'intervention du «Saurel», on aurait eu à déplorer de lourdes inondations sur les terres basses en bordure du fleuve dans le secteur s'étendant entre Montréal et Québec.

Avec la disparition du «Saurel» et l'avènement du «Louis S. St-Laurent», on tourne une nouvelle page dans l'histoire de la navigation au Canada. Pour le «Saurel», c'est la fin d'une longue et fructueuse carrière; pour le «St-Laurent», c'est le début d'une aventure que nos enfants auront un jour à raconter.

THE SAUREL

CCGS Saurel, once the pride of the Canadian Coast Guard's icebreaker fleet, is being retired after nearly 40 years of yeoman service.

Built in 1929 at the shipyards of Canadian Vickers Limited in Montreal, the Saurel has worked most of her career in the same stretch of the St. Lawrence, although she has also served in the Gulf, off the coast of Newfoundland and in eastern Arctic waters.

The Saurel, which also appears in the Canadian Coast Guard Album on our back cover, is now on her last mission, conducting icebreaking operations in the St. Lawrence between Trois-Rivieres and Sorel.

When the job is done, she will head for port at the Quebec marine agency where she will receive a final tribute from the officers and men of her crew.

To quote from Oliver Wendell Holmes:

> *"Ay, tear her tattered ensign down!*
> *Long has it waved on high,*
> *And many an eye has danced to see*
> *That banner in the sky."*

La glace, le plus redoutable ennemi de nos navires circulant dans les eaux canadiennes durant les mois d'hiver, peut parfois rendre la navigation tout à fait impossible. Dans cette photo, on voit les cordages et les treuils sur le pont du «Saurel» littéralement enchâssés dans la glace.

Planning Airports for the Future

PART II

by W. A. Ramsay

This is the second of a two-part series by Mr. Ramsay, the D.O.T.'s senior architectural adviser, based on a recent talk to the Ottawa branch of the Engineering Institute of Canada.

architect's model
Vancouver International Airport

Only a few years ago, the maximum speed limit on highways was 50 miles per hour. Highway departments had to widen the roads, smooth out the hills and curves, increase the speed limit and develop new routes to accommodate the evolution in vehicular development and the growth of its utilization.

Over the past few years, educational departments have had to build more schools to satisfy the still increasing demand for educational facilities at junior levels. Today our universities are crowded to capacity and new universities or extension colleges are under construction at cities all across the country.

Elsewhere, there has never been such a great demand for houses, high rise apartments, office buildings, shopping centres, recreational centres, factories and their products.

The reason for this growing demand, reaching into every area of our life today, is due to the increase in the rate of growth of our population and the decrease in the mortality rate. The population of Canada today by age proportion is 48.3% under 25 years, 44.1% between 25 and 65 years and 7.6% over 65 years. With the increase in population in Canada to 1976, the age proportion then, instead of shifting to the older age brackets, is estimated to be 50.2% under 25 years, 41.6% between 25 and 65 years, and 8.2% over 65 years. The growth of population is not unique to Canada, it is world wide.

Few words need to be said about the advance in technology in recent years. For example, a few years ago television reception was a novelty. Today it is accepted as commonplace to receive television programs via man-made satellites from other parts of the earth or from beyond the earth.

The same evolution which a few years ago effected highways, schools, housing and other industries is now involving the aviation industry. Being a comparatively young and modern industry, the full impact of the population explosion and technological evolution were slower in reaching it than the other industries.

The question may well be asked, why in such a young industry were facilities not planned in anticipation of a growth factor and to accommodate technological advances further into the future? In turn, this evokes the question of the nature of the problems now anticipated in the industry.

In answer to the first question, it may be said that a growth factor and technological advances in the industry were both given due consideration in the planning and construction of terminal building in Canada. To be specific, a growth period of 10 years was established, partly for economic reasons and partly to avoid over-commitment in the event that new types and methods of aircraft operation might then be introduced. It should be noted, however, that at the time that planning was completed and construction commenced, jet aircraft were not yet in operation. Allowances were made at that time to accommodate aircraft up to approximately 165-passenger capacity with bridge loading and other facilities common today.

The problems now anticipated in the aviation industry are directly related to new types of aircraft now under development. There are three types of aircraft in varying stages of development. In order of their operational introduction, the first new aircraft is not really a different type of aircraft—except for its capacity. This aircraft is an enlarged version of the DC 8. It is being enlarged to a capacity of 261 passengers and 2,500 cubic feet for cargo.

The second new type of aircraft known as a super jet or jumbo jet is being developed by the Boeing Aircraft Company and called the B-747. It will have a capacity of up to 490 passengers and 6,190 cubic feet for cargo. Like the DC 8, the super or jumbo jet may be enlarged to carry 850 or 1,000 passengers. Lockheed expects to convert its military C-5A to carry up to 840 passengers.

The third type of aircraft is known as the Supersonic Transport or SST There are three SST's being developed, each in a different country. A joint Anglo-French version called the Concorde is being designed to carry 140 passengers at a speed of 1,450 miles per hour or just over twice the speed of sound. A Russian version, a TU 144, is being developed to fly at 1,550 miles per hour. An American SST is being developed by Boeing to fly at 1,750 miles per hour and carry up to 350 passengers.

The problems which the first two types of aircraft will impose on terminal buildings vary mainly in degree and not in kind. With present day procedures, passengers are requested by airlines to arrive at the terminal at least 20 minutes before flight departure. Ticket counters were requested by airlines for a 10-year period to accommodate the normal spread of passenger arrival times for aircraft seating up to approximately 100 passengers. The baggage is tagged at the counter and dispatched by a mechanical conveyor to an airline baggage room, where it mixes with baggage for all outgoing flights. It then has to be sorted for dispatch to the proper aircraft.

Now, with aircraft seating from 250 to 461 or more passengers, the foregoing procedures will cause delays in departure. The air traveller is not likely to favor the suggestion that he arrive at the terminal earlier to avoid congestion at the ticket counter, only to have a longer wait before departure. There is no unoccupied ticket counter to permit airlines to expand, so new procedures must be developed to accommodate the increased number of passengers per flight.

In addition to carrying a much greater number of passengers, the 250-seat DC 8 and the 461-seat B-747 have other new characteristics. They have a much greater carrying capacity. The B-747, for example, is expected to operate at a profit by carrying a full cargo load in its hold, with few if any seats occupied. To expedite loading and unloading these aircraft, the manufacturers have developed them to utilize containers to package both passenger baggage and cargo. To make maximum use of such containers, passengers' baggage should go directly into the container for his aircraft, with the minimum of handling and re-sorting. The baggage check which the passengers receive

should permit easy identification of their baggage at destination without having to search among 300 to 500 bags.

With the greatly-increased cargo-carrying capability of these aircraft, new problems arise concerning the storage of spare cargo/baggage containers, their handling procedures and their travel distance from loading point to aircraft.

One modified procedure which would alleviate the problem of checking-in would be to divide the ticket counters on a modular basis and allot a certain number of modules for each flight for baggage check-in only. The tickets could be lifted after the passenger takes his seat on board the aircraft.

With departure rooms in existing terminal buildings established to accommodate 100 to 150 passengers, they will obviously have to be enlarged (or more than one utilized) to accommodate the 300-to-461-seat aircraft. Probably more critical than the departure rooms are the access corridors to these rooms, especially where both public and passengers circulate. They will also need to be enlarged and additional washroom and other facilities added. Additional curb space and car parking facilities will also be required.

Partly for the comfort and convenience of the passengers, but more particularly to expedite their en-planing and de-planing, and to permit uninterrupted and faster servicing of the aircraft by keeping passengers off the apron, loading bridges should be installed for the large new type of aircraft. Provision for bridges was made in the design of many Canadian terminals.

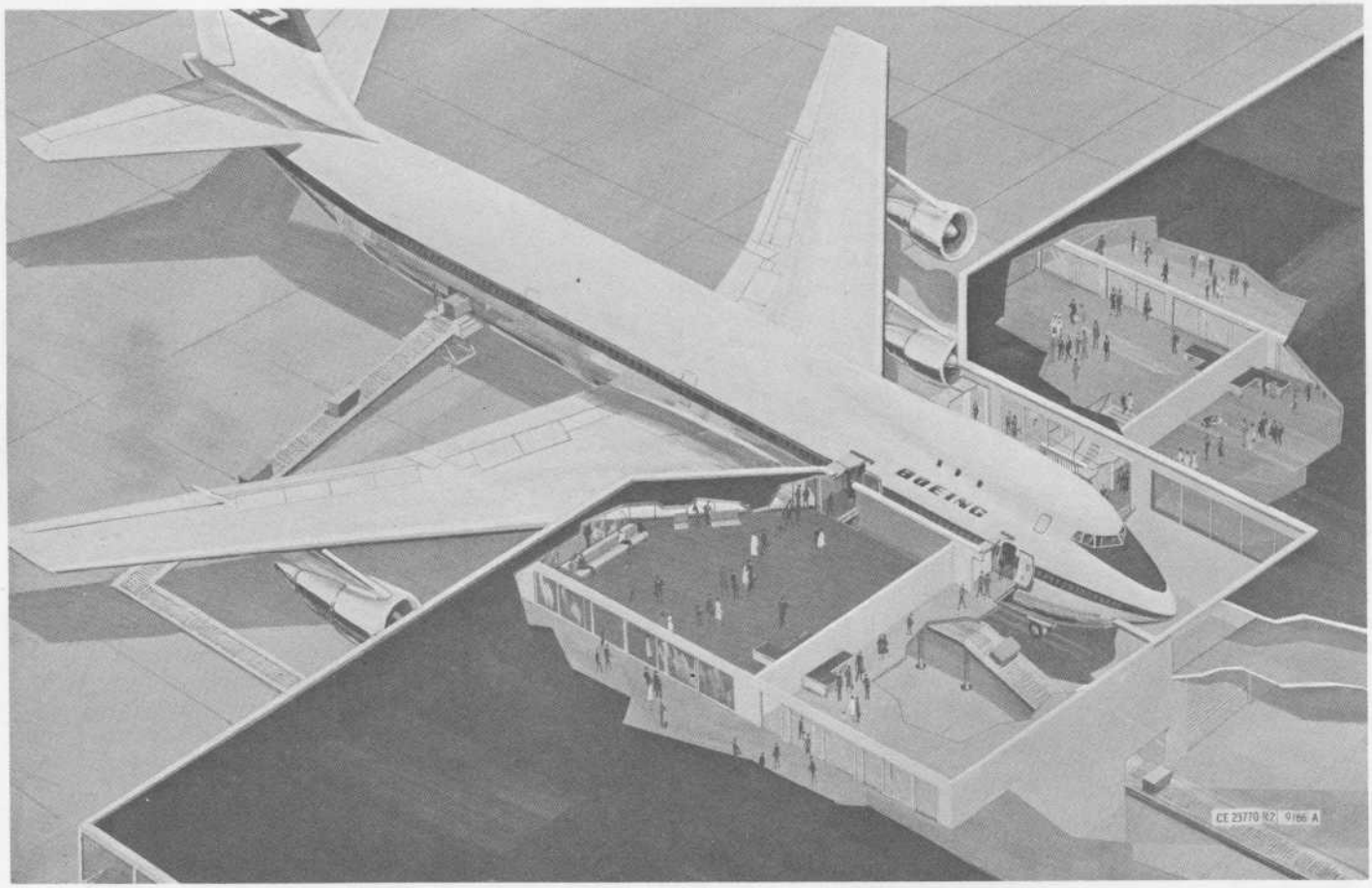
Inspection service facilities were limited at most to four simultaneous arrivals of the 100-to-150-passenger aircraft. Here again, two channels would accommodate one large aircraft but it would be more logical to modify procedures and modify and enlarge the facilities, especially the baggage handling, to match the containerized types of operation.

The weight of the B-747 is just under 350 tons (Note: Airlines and manufacturers are already discussing the extended version of 850 to 1,000 seats at weights of up to 750 tons.) when loaded. Some airlines are considering taxiing it nose up to the terminal and then pushing it out when loaded. This method of operation in the Canadian winter climate could be a problem, but this may be overcome by installing radiant heating in the path of the tug to push the aircraft.

Both the 260-seat DC 8 and the B-747 are being manufactured with an auxiliary motor on board to generate electric power for lighting, air conditioning, etc., to eliminate ground power connections to the terminal. Fuelling these aircraft, however, will require modifications to existing fuelling systems, if flights are not to be delayed. Sewage disposal from the aircraft will require additional or larger tank trucks.

All of the proposed building modifications discussed here may be classed as improvisations to accommodate the next plateau of aircraft in limited numbers simultaneously. The limiting number at each terminal is a matter for careful study, already in progress. New terminals should provide passengers with direct access from car through waiting room to aircraft and the reverse.

The third type of aircraft now being developed, the supersonic or SST, although not carrying as many passengers and



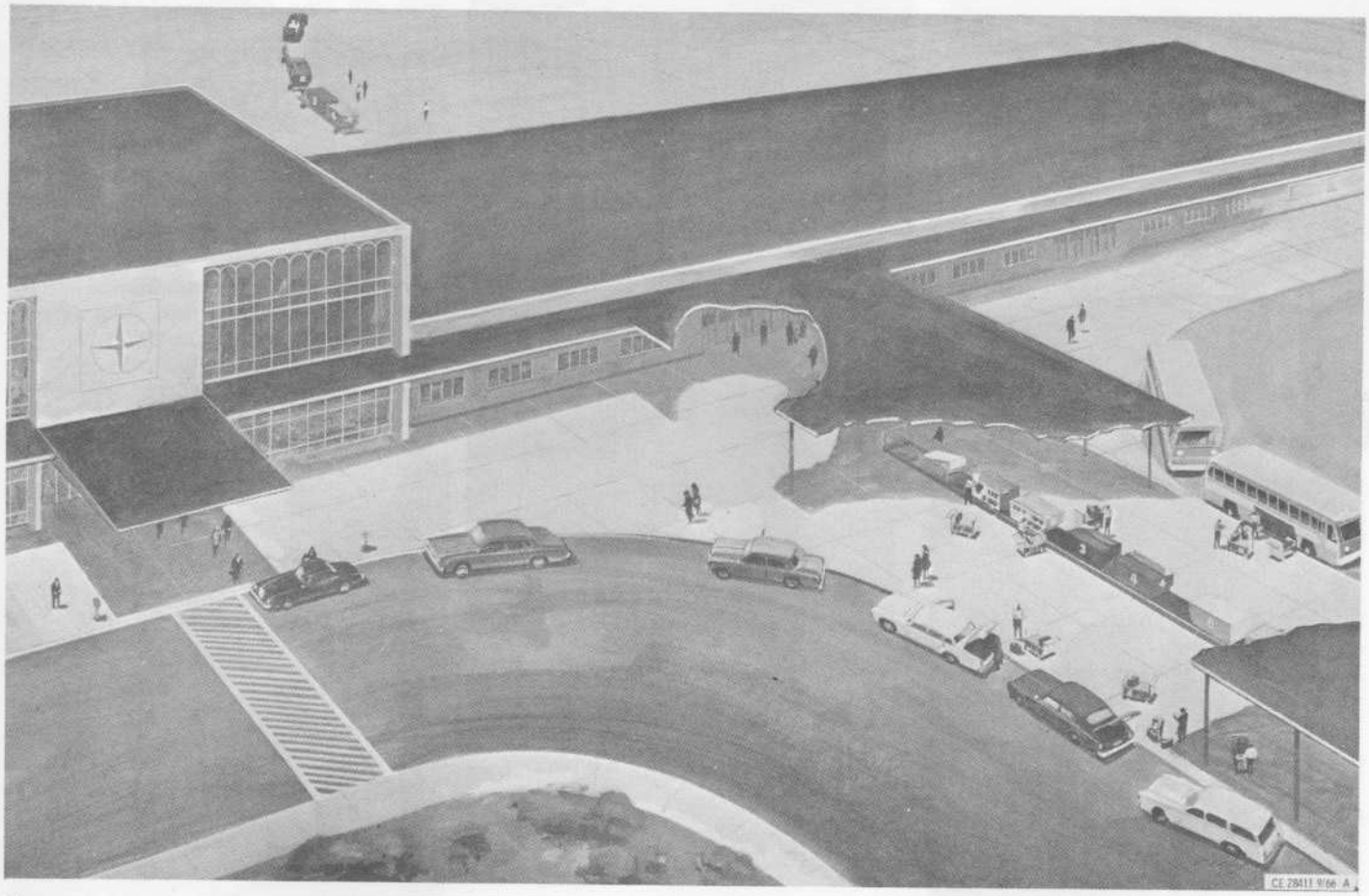
This sketch from a Boeing brochure shows one method of facilitating the loading and unloading of passengers and baggage at the airport of the future.

with the attendant problems of lesser magnitude, will have many other problems. The gate positions or aircraft parking circles were established as a maximum of 220 feet in diameter at Canadian terminals. The Concorde has a length of 184 feet and a wing span of 84 feet and could fit one of the gates in nosed-in aspect. The Boeing SST is expected to measure 306 feet in length with a wing span of 180 feet, wings open, and 106 feet, wings closed. Parked parallel to the face of the terminal, it would require two gate positions.

At supersonic speeds of 1,600 to 1,700 miles per hour, the outer skin of the aircraft is subjected to such friction from the air, that the surface temperature rises to 425 degrees Fahrenheit even at altitudes where the air temperature is around −50 degrees F. In order to maintain an inside cabin temperature of 70 degrees, the whole body of the aircraft must be insulated and have a piping system to circulate a coolant at −20 degrees. If the SST were to make a direct landing, it has been calculated that the body would be too hot for service personnel to touch. By slow descent, however, this problem would be minimized or eliminated, and in any case the passengers would not be exposed to the surfaces because of the loading bridge.

In summary then, the main problems which the super jets will impose on terminal buildings relate to accessibility to the airport, car parking space, curb space, check-in procedures, baggage handling, circulation to the gate position, the size of the departure rooms, and the adequacy of service facilties. All must be enlarged or improved to meet the demand of much larger simultaneous passenger arrivals or departures, permit new operational procedures, and to increase capacities beyond the 10-year growth period of present terminals.

There are many other problems, both anticipated and unknown, which will arise in terminals with new types of aircraft to come into operation in the next few years, but airport planners are confident that, with new methods, procedures and planning, the problems will be resolved in a manner compatible to the aircraft.



The introduction of larger aircraft may lead to such new concepts as this plan for curbside baggage handling.

RETIREMENTS

R. Spouse

Raymond Spouse, a D.O.T. employee who served 49 years in the civil service including 24 years on a remote Vancouver Island lightstation, has retired in Victoria.

Yard superintendent at the Department's marine depot in Victoria at the time of his retirement, Ray was born in Wallsend, England on July 7, 1902 and moved with his family to the British Columbia capital when he was about nine years old.

Starting work as a mess boy aboard the old Fisheries patrol vessel "Malaspina" shortly after his 15th birthday, Ray transferred to the Government's marine radio division after a year at sea.

Near the end of his five-year apprenticeship in the division's wireless workshop, the young radio operator was sent to Estevan Point off the west coast of Vancouver Island, where the radio and light station were being rebuilt.

Ray was told that his assignment at the light station would last 10 days. Instead he spent the next 24 years there, a tour of duty that he describes today as "interesting, but not exciting".

Ray ruefully recalls that the station's most spectacular event (which occurred June 20, 1942 when a Japanese ship shelled the Estevan Point installation) took place while he was on leave in Vancouver.

In June 1945, Ray was transferred to the Victoria depot as a marine signals mechanic and later was promoted to maintenance supervisor.

He completed his long service on Jan. 5, 1967 and retired after he and his wife Mary were presented with several gifts and feted by fellow employees at the depot, including L. E. Slaght, district marine agent.

Mr. Spouse and L. E. Slaght

R. C. Peddle

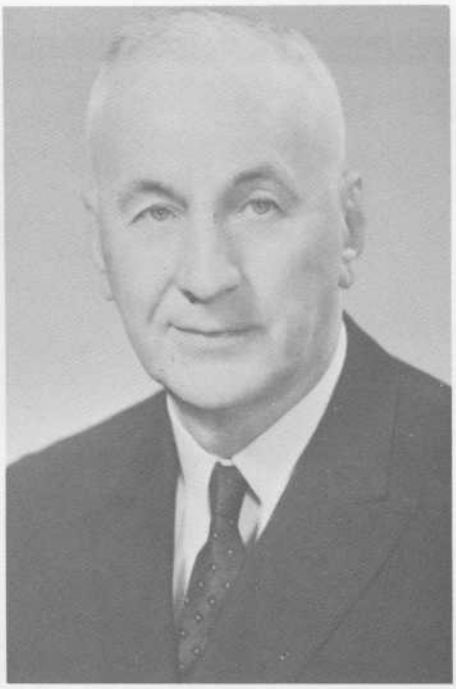
Roland Chesley Peddle, inspector in charge of radio regulations at St. John's, retired Jan. 31 after more than 47 years of government service in Newfoundland.

Mr. Peddle began his career in the Government of Newfoundland with the Department of Posts and Telegraphs in 1919 as a postmaster and telegrapher.

In 1943, he was moved to the engineering branch and on April 1, 1949, he joined the telecommunications and electronics branch of the Department of Transport as an inspector of radio regulations.

Eight years later, he was promoted to inspector in charge of the St. John's office, a position he held until his retirement.

At a gathering held in his honor, Mr. Peddle was presented with a piece of luggage from his co-workers by C. M. Williams of Moncton, regional superintendent of radio regulations.



R. C. Peddle

R. C. Smith

The Winnipeg Flying Club was the scene last Dec. 28 of a retirement party for R. C. Smith, inspector of airworthiness for the Winnipeg region.

With his retirement, Mr. Smith completes almost 40 years of activity in both civil and military aviation.

Mr. Smith's early life was spent in London, Ont., where he was one of the first holders of the D.O.T.'s "B" and "D" air engineer's licences.

He was associated with London Air Transport and the London Flying Club as an air engineer before joining Fleet Aircraft at Fort Erie, Ont., as chief inspector of new aircraft construction.

In 1937, he was appointed assistant superintendent of the Canada Car and Foundry Company in Fort William, Ont., and held this position until the outbreak of the Second World War when he joined the RCAF.

During the war, Mr. Smith attained the rank of wing commander and became commanding officer of No. 15 Aeronautical Inspection District in Winnipeg.

He joined the Department of Transport in 1947 as resident inspector at A. V. Roe Canada Limited where he was in charge of airworthiness surveillance for the Avro C-102, the first commercial jet aircraft built in North America.

When work on the jetliner stopped in 1952, Mr. Smith was transferred to the Winnipeg region where he became regional airworthiness inspector.

Miss E. Clarke

Miss Emma Clarke has retired from the Department of Transport after serving almost 20 years in the frequency bureau of the Radio Regulations Division in Ottawa.

Born in Fitzroy Harbour, Ont., Miss Clarke served previously with the Canadian Army from June 1942 until March 1947 before joining D.O.T. where she was assigned to the General Engineering Branch.

In 1952, Miss Clarke was transferred to radio frequency licences and later to the radio frequency bureau.

Miss Clarke, who officially retired last January 16, was congratulated by A. G. E. Argue, superintendent of authorization and enforcement. Gifts that included a pearl necklace, matching earrings and a French purse were presented to her by Miss Evelyn Smirle on behalf of her many friends in the division.

L. J. Podd

L. J. (Lance) Podd, an electrician at Lakehead Airport, has retired, ending a 28-year career with the Department that took him to posts in Ontario, Manitoba and Saskatchewan.

Eighty-five friends, including guests from the Lakehead area, Winnipeg and Churchill, gathered to honor Mr. Podd at a dinner held last October in the Royal Edward Hotel, Fort William.

A highlight of the evening was the presentation of a reclining chair to Mr. Podd by R. E. St. John, regional supervisor of airports at Winnipeg.

Master of ceremonies was Walter Heikkinen, airport manager at the Lakehead air terminal.

C. P. Titus

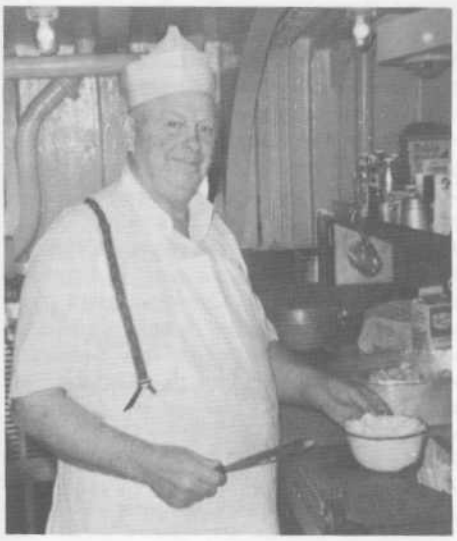
The chief cook aboard CCGS "Thomas Carleton" has hung up his apron for the last time.

Clarence P. Titus, whose retirement took effect with the new year, first signed on aboard CCGS "Dollard." He was transferred to the Thomas Carleton in September 1960 where he served as chief cook under five captains.

The genial cook said he always found the ships' crews to be co-operative and highly appreciative of the pastries and bread he liked to make best.

His favorite pastime, however, was trying out new recipes and the proof of the pudding, according to Mr. Titus, lay in the fact that "they always asked for more."

Mr. Titus, who received congratulations on his retirement from Captain E. O. Ormsby, district marine agent at Saint John, now lives in Westport, N.S., with his wife.



C. P. Titus

C. E. Bolduc

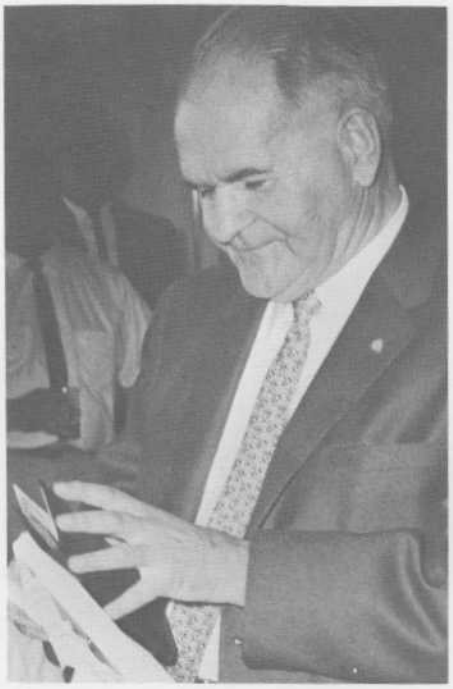
Clarence Edward ("Pop") Bolduc, as he is known on the airways, has retired after serving 26 years in air traffic control.

Mr. Bolduc served as a radio operator with the merchant marine and American Airlines, before joining air traffic control services in Montreal in 1940.

In 1945, he transferred to the Windsor control tower as senior control officer and served there until his retirement in 1966.

At a farewell gathering at the Windsor Flying Club, Mr. Bolduc was presented with a gift from his friends and associates by F. E. Dorey, regional supervisor, air traffic control.

The well-known controller says he plans to spend his retirement working on his lifelong hobby, amateur radio.



C. E. "Pop" Bolduc

A. C. Waldie

A. C. Waldie, divisional supervisor of the Great Lakes division of the Steamship Inspection Service, has retired after 21 years service.

A lifelong love of ships and the sea remained with Mr. Waldie from the day he began his apprenticeship in England in 1916 until he retired—with the exception of a year's service as an air frame mechanic with the Royal Air Force in France during the First World War.

During the Second World War, Mr. Waldie served at sea, was one of the participants in the First Convoy Conference held in Halifax and joined the British Admiralty Technical Mission in Montreal in 1943.

In 1945, he joined the staff of the Steamship Inspection Service, Toronto. He was promoted to senior steamship inspector in 1954 and promoted to his present position in April, 1958.

Mr. and Mrs. A. C. Waldie

CROSS CANADA DATELINE

DOT Wins Honors For Fire Prevention

Ottawa—Seven Department of Transport installations have won honors in the 1966 annual Government of Canada Fire Prevention Contest.

The seven include Edmonton International Airport, the Canadian Coast Guard College, Vancouver International Airport, Halifax International Airport, Torbay Airport, Moncton Airport and Montreal International Airport.

They placed eighth, 10th, 11th, 12th, 13th, 14th and 17th, respectively, among the 20 winners in the contest. There were 209 entries.

Overall winner in the national contest was Westminster Hospital in London, Ont.

The Government of Canada competition followed the annual Air Services Fire Prevention Contest in which Edmonton International Airport took top honors after scoring highest among 46 entries.

(The contest is judged by the Emergency Services and Requirements Section of the Airports and Field Operations Branch. All entries are divided into three classes for airports according to size and one for miscellaneous sites.)

Winners of the four classes included:

Class A
- (1) Edmonton International Airport
- (2) Vancouver International Airport
- (3) Canadian Coast Guard College

Class B
- (1) Sault Ste. Marie Airport
- (2) Quebec Airport
- (3) Fort St. John Airport

Class C
- (1) Port Hardy Airport
- (2) Fort McMurray Airport
- (3) Yarmouth Airport

Class D
- (1) Graham Aeradio Station
- (2) Estevan Point Surface Weather Station
- (3) Spring Island Loran Station

GERRY CASSAN WINS AGAIN—A few months ago, "The DOT" recalled the exploits of a young Canadian speedskating champion, Gerard Cassan, son of Robert Cassan, a member of the maintenance staff at Ottawa International Airport. In February, 12-year-old Gerry was awarded the Jean-Charles Daoust trophy as the best all-round French-speaking amateur athlete in the Ottawa-Hull area. A few days later, Gerry set a new record in the Juvenile Boys' 440 in the Ontario Open Speedskating Championships held in Ottawa. His time was 46.3 seconds. He also won the 220. Here, Gerry is shown with his father and mother.

NOUVEAU TRIOMPHE DU JEUNE CASSAN —Il y a quelques mois, "The DOT" rappelait les exploits du jeune Gérard Cassan, qui, à l'âge de 11 ans, était déjà acclamé comme champion canadien du patinage de vitesse dans la classe midget. Gérard, fils de M. Robert Cassan, membre du personnel chargé de l'entretien à l'aérogare d'Uplands, vient maintenant d'ajouter un nouveau trophée à sa collection. Au cours du gala sportif organisé par le journal "Le Droit" en février dernier, Gérard a été proclamé le meilleur athlète amateur d'expression française de la région Ottawa-Hull. On lui a alors décerné le trophée Jean-Charles Daoust. Quelques jours plus tard, Gérard, maintenant dans la classe des juvéniles, a établi un record aux épreuves ouvertes de championnat de l'Ontario en parcourant les 440 verges en 46.3 secondes. Il remportait également les honneurs dans la course de 220 verges. Gérard est photographié ici en compagnie de son père et de sa mère.

Promotion

Moncton—A former Ottawa man has assumed his new appointment here as regional engineering supervisor of the Telecommunications and Electronics branch of the D.O.T. for the Moncton air services region.

Lloyd Grant Manery, a graduate of Queen's University, Kingston, and a member of the Association of Professional Engineers of Ontario, was formerly radar maintenance engineer and engineer in charge of manuals at headquarters prior to his appointment.

Coffee Can Lid Wins $30 Suggestion Award

Ottawa—The plastic lid from a can of coffee has won a $30 suggestion award for A. E. Moore, an aircraft mechanic at headquarters.

Mr. Moore found that the lid, given to him by a steward aboard CCGS "D'Iberville" while he was working on the ship's helicopter, was useful for saving partly-used quarts of oil.

"I found that sometimes it was necessary to open an oil can for very little oil," said Mr. Moore. "The bulk of the oil would eventually be thrown away because of the difficulty of covering it properly."

"With these plastic covers, you can remove a spoonful or a cupful of oil, replace the cover and the remaining oil is safe until it's needed again," he said.

Another $30 suggestion award winner was E. G. Beagan of RR 1, Nobel, Ont., a clerk with the district marine agency at Parry Sound, Ont.

Mr. Beagan suggested that the Department have all small boats at its marine agencies painted a standard color of red and white to conform with the colors of the Canadian Coast Guard.

In adopting the suggestion, the Department decided to standardize small craft colors by painting the hulls white with red trim (the reverse of the red hulls and white trim of the Coast Guard) to indicate a close relationship, yet not confuse the public into thinking that all red and white D.O.T. vessels are rescue craft.

Also $30 richer after a modification to a stock card was found to be a worthwhile improvement in work methods, is D. B. Simmonds, a clerk at the district marine agency in Charlottetown.

A $25 suggestion award was presented to J. R. Gareau, a welder with the Department's marine agency at Prescott, Ont., for suggesting a simplified closure for battery chamber covers on buoys.

Mr. Gareau said his suggestion would make changing the batteries in buoys much less complicated, particularly in choppy waters.

A $15 award went to K. L. Leek, officer in charge of the upper air station at Stephenville, Nfld., for suggesting that a thermometer holder be used at weather stations where some thermometers are temporarily out of service because of extremely low temperatures.

Mr. Leek said a holder or rack would provide a safe place to store the instruments so that they would not be broken accidentally.

Safety Award

Toronto—Captain Howard G. Bould, the Coast Guard Rescue Officer at Trenton, Ont., has won the 1966 Award of Merit sponsored by the Canadian Boating Federation.

The award was presented to Capt. Bould at the Canadian Boat Show in Toronto last Feb. 7.

The award carries the citation: "For the promotion of safety beyond the call of duty and his devotion to the preservation of life and safer boating."

D. D. G. Keddie Is Named Executive Assistant Air

Douglas D. G. (Doug) Keddie, 56, has been appointed Executive Assistant to the Assistant Deputy Minister, Air.

Mr. Keddie, Emergency Measures Coordinator since he joined D.O.T. in 1961, replaces Henri Gourdeau, who is now Canada's representative on the council of the International Civil Aviation Organization.

A native of Ottawa and a graduate of Royal Military College, Kingston, Mr. Keddie joined the Royal Canadian Air Force in 1931 and transferred the following year to the Royal Air Force, where he attained the rank of Group Captain.

During his air force career he served in a number of posts including that of R.A.F. director on the staff of the Naval War College at Greenwich, England, and chief British intelligence officer on the staff of the Supreme Allied Commander, Europe.

Mr. Keddie retired from the air force in 1957 to join Canada's civil defence organization and later became chief instructor and second in command of the Civil Defence College at Arnprior before joining the Department of Transport.

Nouvel adjoint exécutif aux Services de l'Air

M. Douglas Donald Gould Keddie, ci-devant coordonnateur des mesures d'urgence au ministère des Transports, vient d'assumer les fonctions d'adjoint exécutif au sous-ministre adjoint pour l'Air.

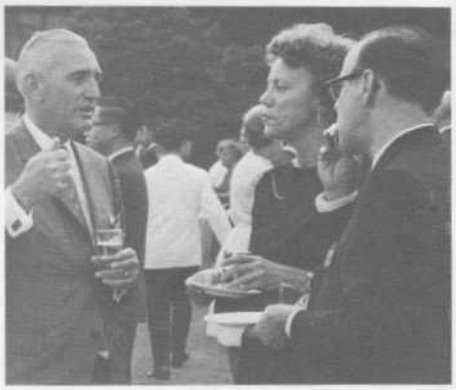
D. D. G. Keddie

Il succède à M. Henri Gourdeau qui représente maintenant le Canada au conseil de l'Organisation de l'aviation civile internationale.

Natif d'Ottawa, M. Keddie est un diplômé du Collège militaire royal de Kingston. En 1931, il s'enrôlait dans l'ARC pour passer un an plus tard au service de la Royal Air Force.

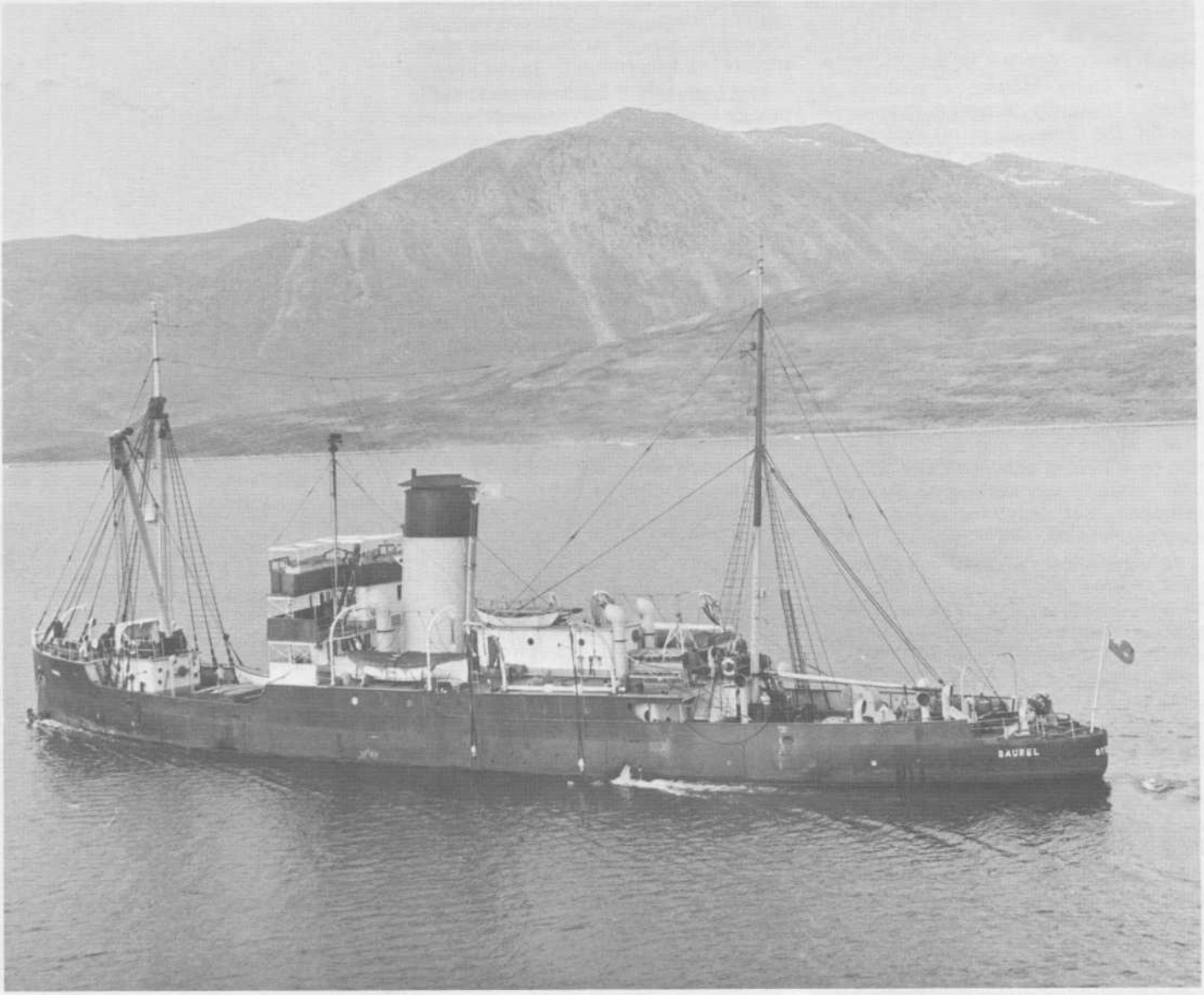
Au cours de sa carrière dans l'aviation, il s'est vu confier divers postes importants, dont celui, entre autres, de directeur de la R.A.F. auprès du personnel du Naval War College à Greenwich, Angleterre. Après la guerre, il a également représenté le service de renseignements britannique auprès du Commandement suprême allié en Europe.

M. Keddie s'est retiré de l'aviation en 1957 pour s'occuper de l'organisation de la défense civile au Canada. Il est devenu instructeur en chef et adjoint au directeur du Collège de la défense civile à Arnprior. En 1961, il passait au ministère des Transports.



Dr. D. P. McIntyre, left, Met's chief of research and training, is shown at a recent reception held in Tokyo at the home of Japanese Prime Minister Sato. With Dr. McIntyre are Dr. G. Benton, research director of the United States' Environmental Science Services Administration, and Mrs. Benton. Dr. McIntyre was in Japan as a Canadian delegate to the 11th Pacific Science Congress.

Canadian Coast Guard ALBUM de la Garde côtière



CCGS Saurel, once the pride of the Canadian Coast Guard fleet, is about to be retired after nearly 40 years of faithful service. Built in 1929, the "Saurel" is based at the Quebec marine agency of the Department of Transport. Over the years, it has conducted its icebreaking operations in the St. Lawrence, in the Gulf of St. Lawrence, off the coast of Newfoundland and in Arctic waters.

CCGS "SAUREL"

LENGTH: 212 feet
BREADTH: 42 feet
DRAFT: 14 feet, 2½ inches
POWER: Steam, 3,000 I.H.P.
GROSS TONNAGE: 1,176

Le *n.g.c.c. Saurel*, jadis l'orgueil de la Garde côtière canadienne, est sur le point d'être mis à sa retraite après près de 40 ans de service dans les glaces du fleuve et du golfe Saint-Laurent, au large de Terre-Neuve et jusque dans l'Arctique. Son port d'attache se situe à l'Agence de la marine de Québec. Le brise-glace a été construit à Montréal en 1929.

LE N.G.C.C. «SAUREL»

LONGUEUR: 212 pieds
LARGEUR: 42 pieds
TIRANT D'EAU: 14 pieds 2½ pounces
PUISSANCE: vapeur, 3,000 cvi
JAUGE BRUTE: 1,176 tonneaux