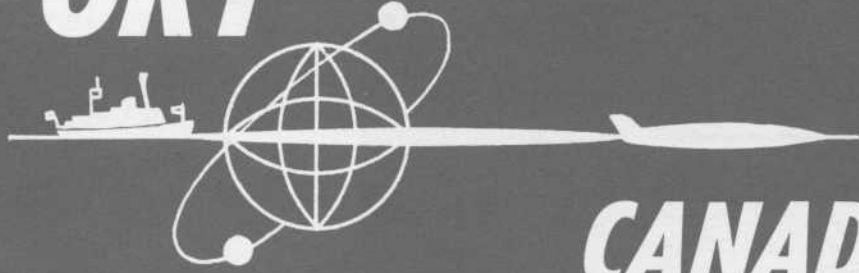


TRANSPORT

MARCH—APRIL 1968
MARS—AVRIL



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MARCH—APRIL 1968 • OTTAWA
MARS—AVRIL

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ROGER DUHAMEL F.R.S.C. QUEEN'S PRINTER AND
CONTROLLER OF STATIONERY, OTTAWA, 1968

ROGER DUHAMEL M.S.R.C., IMPRIMEUR DE LA REINE ET
CONTRÔLEUR DE LA PAPETERIE, OTTAWA, 1968

OUR COVER

His Excellency Governor General Roland Michener paid a special visit on board the Canadian Coast Guard Ship *J. E. Bernier* last February 25 to watch the canoe race held during the Quebec Winter Carnival. Quebec photographer Maurice Edwards took our cover photo as the helicopter carrying the Governor General was leaving the ship's flight deck to get a bird's eye view of the canoeists' progress in the St. Lawrence. Just minutes before, the Governor General had given the signal that started the big race.

FRONTISPICE

Son Excellence le gouverneur général Roland Michener s'est joint au personnel à bord du n.g.c.c. «*J. E. Bernier*,» le 25 février dernier, afin de pouvoir suivre de plus près la course de canots tenue dans le cadre du Carnaval annuel de Québec. Le photographe Maurice Edwards, de Québec, a pris cette photo au moment où un hélicoptère transportant le gouverneur général décollait du pont du navire pour survoler le parcours suivi dans le fleuve par les canotiers. Plus tôt, le gouverneur général avait donné le signal de départ de la course du pont d'envol pour hélicoptères.



centennial plus one

Quite a lively discussion developed around Ottawa regarding the continuation into 1968 of the special activities associated with centennial year. At one extreme were those who suggested that this was a glorious birthday party which we should remember, not try to repeat. At the other extreme were those who proposed that we carry on a further major programme of special national and local activities and ceremonies similar to those organized for 1967.

The desirable goal probably lies somewhere between these positions. We can not and should not try to create again the extensive public events of 1967. The ceremonies, the fun and the excitement were something rather special. We have proven to ourselves that we are not a race of dour frontiersmen; that we have a stimulating and diversified culture and an exciting national life; and that we love ceremonies and panoply, whether we are observers or participants, and whether the pomp and the parties take place in the plaza at Toronto City Hall or in the rural atmosphere of smaller villages and municipal communities. Nothing could equal Parliament Hill at midnight on June 30, 1967, yet I recall with equal pleasure several of the programmes which I attended in small spots in Leeds County.

We made a special effort to organize a number of programmes within the Department in 1967. In line with the spirit generated last year, we plan, without maintaining the same high pitch of excitement, to continue in 1968. Some of the marine agencies which did not find it possible to organize public Coast Guard Days last year, will have them this year; and we hope to hold a number of other "open house" events at various field operations. I hope all field personnel who feel that they can arrange to welcome some public visitors will do this in 1968 on their own initiative, quite apart from a number of proposals that we shall be making to you from headquarters.

au lendemain du centenaire

Nous avons eu, à Ottawa, un débat très animé au sujet de la continuation en 1968 des manifestations spéciales entourant la célébration du Centenaire. D'une part, on alléguait que c'était là un magnifique banquet d'anniversaire dont nous devrions garder le souvenir sans chercher à le répéter; d'autre part, on proposait que nous devrions mettre en œuvre un autre programme important d'activités spéciales nationales et locales et de manifestations semblables à celles qui avaient été organisées pour 1967.

Le but à atteindre se situe probablement quelque part entre ces deux extrêmes. Nous ne sommes pas en mesure et nous ne devons pas tenter de recréer les manifestations publiques grandioses de 1967. Les manifestations, le plaisir et la ferveur étaient quelque peu spéciaux. Nous nous sommes prouvés à nous-mêmes que nous ne sommes pas une race d'austères broussards; que nous avons une culture stimulante et diverse et une vie nationale passionnante, et que nous aimions le cérémonial et le grand appareil, que nous soyons spectateurs ou figurants, et que le faste et les banquets aient lieu sur la place de l'hôtel de ville de Toronto ou dans le cadre rural des petits villages ou des petites municipalités. Rien ne pourrait se comparer au spectacle offert sur la colline du Parlement, à minuit, le 30 juin 1967; pourtant, je me rappelle avec un égal plaisir plusieurs des programmes auxquels j'ai assisté dans de petits endroits du comté de Leeds.

Nous avons fourni un effort spécial pour organiser en 1967 un certain nombre de programmes au sein du Ministère. Inspirés par l'ardeur suscitée l'an dernier, nous nous proposons, sans maintenir la même atmosphère fébrile, de poursuivre ce travail en 1968. Certaines des agences de la marine qui n'ont pas été en mesure, l'an dernier, d'organiser des journées publiques de la Garde côtière, les organiseront cette année. Nous comptons également organiser un certain nombre de manifestations publiques à divers postes locaux. J'espère que tous les employés de ces postes qui croient être en mesure d'accueillir le public visiteur le feront en 1968 de leur propre initiative, sans se limiter aux divers projets que nous, de l'Administration centrale, vous soumettrons.

J. R. Baldwin

Deputy Minister

Sous-ministre

the search for a new symbol

concours pour le choix d'un symbole

In the January-February issue of "Transport," our Deputy Minister suggested that a new departmental symbol or insignia be created "which will be an indication of our activities and our purpose, both to the general public and to all members of the department."

What is wanted is a symbol of the kind used by Expo 67 and the Centennial Commission.

What is *not* wanted is a heraldic crest or a pictorial representation.

Ideas will be welcomed from everyone in the department with a creative urge to come up with a departmental symbol.

A cash prize has been established and a representative committee from headquarters is being set up.

General Information:

Suggestions for a new symbol may be submitted by any D.O.T. employee.

The symbol chosen must be an original design suitable for use on departmental stationery, press releases, equipment, buildings, etc.

It must represent the Department of Transport, but not conflict with existing symbols or branch insignia.

The originator of the winning design will receive a cash prize of \$150.

Details of the contest and how designs should be submitted will be carried in the May/June edition of TRANSPORT.

The competition will be open until Oct. 1, 1968.

Le sous-ministre des Transports, dans notre numéro de janvier-février, a proposé qu'on étudie la possibilité d'adopter un nouveau symbole ou insigne «qui soit un indice de nos activités et de notre but, tant aux yeux du public en général qu'à ceux de tous les membres du ministère».

Ce qu'on veut est un symbole, simple en soi, comme ceux, par exemple, qui ont été adoptés pour l'Expo et pour l'année du Centenaire.

Nous ne sommes pas en quête d'un emblème conçu selon les toutes dernières données de la science héraldique ni d'un dessin (semblable à celui qui paraît en couverture de notre revue) illustrant en détail l'activité du ministère.

Un comité est en voie de formation pour étudier les suggestions. Un prix en argent sera accordé au gagnant du concours.

Renseignements généraux:

Le concours s'adresse à tous les employés du ministère des Transports. Le symbole choisi doit être un dessin original qu'on pourra utiliser sur la papeterie du ministère, les communiqués de presse ainsi que sur les édifices et tout autre équipement.

Il devra s'agir d'un symbole qui tient compte du rôle joué par le ministère dans son ensemble et qui ne vient pas en conflit avec d'autres symboles ou emblèmes utilisés par certains services du ministère.

La prime consentie au gagnant sera de l'ordre de \$150.

Des renseignements supplémentaires sur les «règles du jeu» et la façon de procéder pour soumettre vos suggestions seront donnés dans la prochaine livraison de «Transport».

Le concours prendra fin le 1^{er} octobre 1968.

computer meteorology: toward a better forecast

by Edouard Deslauriers
Information Services Division

Jim Leaver, chief of the Meteorological Branch's Central Analysis Office at Dorval, Que., likes to compare his office's weather forecasts to a product that is "consumed" daily by its Canadian "customers".

To this end, Mr. Leaver is concerned that the product is produced as efficiently as possible so that it can keep abreast of the demands for more frequent and more accurate weather reports.

Enter the computer, the forecaster's number one "tool" in the ceaseless task of gathering and analyzing Canada's weather.

In 1962, the CAO installed its first computer and put it to work. Five years later, the need for more computing speed and the need for a computer capable of handling more data made it obsolete.

The CAO's newest computer, now installed and working at Dorval, digests the information fed into it at least 10 times faster than the first and it is estimated that it handles 350,000 mathematical operations a second.

With the help of this computer, the Central Analysis Office can now forecast the weather three days in advance.

Through continuing experiments and research, the computer is being fed more and more information and it is hoped that within the next decade it may provide the weatherman with the data required to forecast the weather five days in advance.

All over the world, meteorologists have adopted the mathematical approach to the forecast problem and numerical weather prediction is now the order of the day.

Whereas, in the past, the weatherman would rely almost exclusively on his experience and knowledge to make weather forecasts, he now looks into the future with a new type of "crystal ball" which gives him a clearer picture of things to come.



THE COMPUTER: VITAL AID TO FORECASTING—A Department of Transport meteorologist, working towards his post-graduate degree, processes meteorological data at McGill University.

LA CALCULATRICE: AIDE ESSENTIELLE À LA PRÉVISION—Un météorologiste du ministère des Transports, poursuivant des études en vue d'obtenir un diplôme postuniversitaire, traite des données météorologiques à l'université McGill.

For many years, weather prediction services were almost entirely dependent upon the synoptic approach, supplemented by semi-objective techniques obtained from theoretical studies of dynamic meteorology.

In other words, the weatherman, with the help of synoptic models or weather maps depicting typical atmospheric situations, would make forecasts based on his experience and upon incomplete statistical analyses.

These were subjective techniques to which the forecaster applied his theories of dynamic meteorology.

Calculations such as those now made by the computer were originally initiated by meteorologists who realized many years ago that the mathematical approach to weather forecasting was the one most likely to provide long-range and more accurate findings.

Meteorologists also realized then that man himself could not possibly attempt to solve by hand the millions of calculations for the complex mathematical equations involved in the objective analysis of weather observation data. The time spent on calculations alone would have made a forecast impossible.

It is in fact estimated that 64,000 people working around the clock could hardly expect to achieve in one day what the computer is now doing in one set of operations.

Numerical weather prediction is defined as a technique utilizing numerical computations to predict the dynamic and thermodynamic evolution of the atmosphere.

Mr. Leaver, officer in charge of the Central Analysis Office, accompanied by the heads of the various units comprising CAO—Ralph Anderson (Analysis and Prognosis), D. E. McClellan (Extended Forecast), M. Kwizak (Operational Development and Evaluation) and J. Simla (Computing Services)—took us on a tour of the office, explaining how the technique is being applied here in Canada.

Mr. Leaver compares the CAO to the "basic manufacturer" whose product—in this case a weather forecast—is produced for consumption in Canada.

To produce its forecast, the CAO relies on information provided by a network of 2,500 surface weather observation stations and 700 upper air stations strategically located across the northern hemisphere.

The surface stations provide reports transmitted to CAO at regular six-hour intervals. The upper air stations are increasing their schedule of observations to four times daily with information bearing on pressure, temperature, wind and humidity.

Upper air stations gather their information with the help of weather balloons which reach levels up to 100,000 feet.

These balloons carry a package containing highly sensitive equipment to measure meteorological parameters in the atmosphere. This information is transmitted by radio to ground receiving stations and then relayed by teletype to CAO through the meteorological communications system.

Extraction of data, analysis and prediction are the three main functions performed at the Central Analysis Office.

All the coded reports received from the various observation stations must be systematically verified to ensure that the information accepted for further consideration in the processing cycle is free of errors.

Some 50 of the more than 72 available pieces of information are extracted from each station after verification and these constitute the data required for objective analysis.

It is estimated that the computer goes through about 50 million mathematical operations in the extraction of data alone.

The data is collected from the teletype

circuits by means of perforated paper tape. The information, thoroughly scrutinized with the help of a paper tape reader, is then transferred electronically to a magnetic tape, providing high-speed input to the "central processor."

The next phase of the process deals with data analysis and prediction. Here it is estimated that the number of mathematical operations involved may run to as high as 200 million, depending on the quantity of data fed into the computer.

The computer solves all these complex mathematical operations in a scant nine minutes.

The end result is a large weather map on which are charted the flow patterns in the upper atmosphere over the whole northern hemisphere. This provides the meteorologist with an over-all picture

of the situation and allows him to predict weather conditions 72 hours in advance.

Through the Central Analysis Office, sections of this large weather map containing data relevant to certain areas of Canada are then forwarded to the weather centrals, the "wholesalers," where more information of a regional nature is added before they are passed on to the "retailing outlets," the local weather offices across the country.

And so, finally, we the "consumer" are let in on the secret:

"A large high pressure area centred over the northern section of the country continues to give sunny skies over the central part of Canada. A light northerly flow of cool air continues to hold temperatures a few degrees below normal for this time of year . . ."



GATHERING THE BASIC INFORMATION—*Instructor shows student met. technicians how to use the instruments in a Stevenson Screen at the D.O.T. Air Services School at Ottawa International Airport.*

CUEILLETTE DES INFORMATIONS DE BASE—*Un instructeur enseigne à des techniciens stagiaires en météorologie la façon d'utiliser les instruments installés dans un abri Stevenson de l'École des Services de l'Air du ministère des Transports, à l'aéroport international d'Ottawa.*

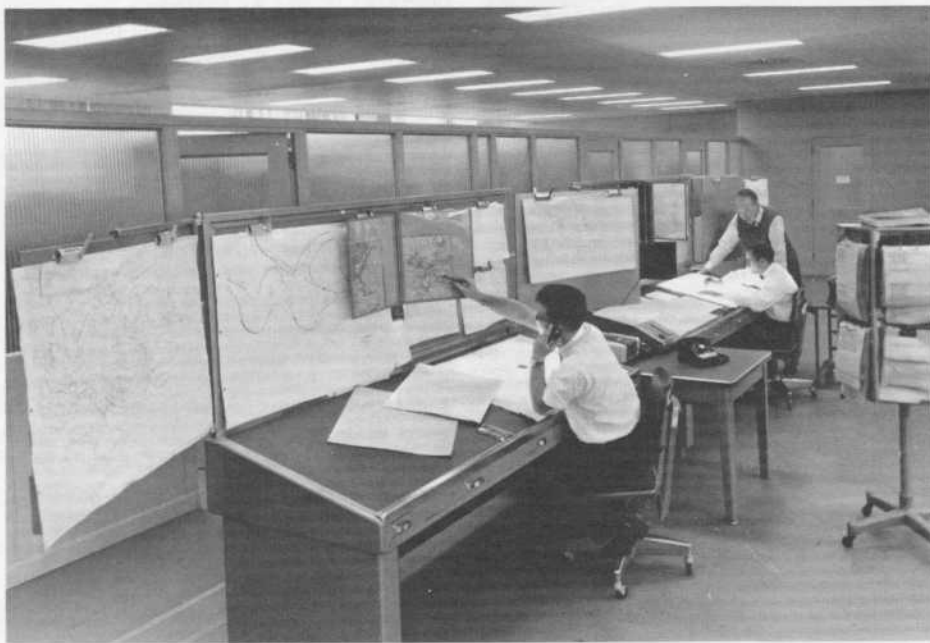
la machine écarte la conjecture des prévisions de la météo

par Edouard Deslauriers
Services d'information

Il existe à Dorval, à quelques pas de l'aéroport international de Montréal, une petite «manufacture» inconnue de bien des gens, mais d'où sort cependant un produit de qualité exceptionnelle que plus de 20 millions de Canadiens dévorent en un rien de temps dès qu'il est mis sur le marché . . . et celà, quotidien-

nement. C'est un produit qui exerce en effet une telle influence sur le comportement de chacun de nous qu'on ne saurait s'en dispenser, pas même pour un jour.

Il s'agit, comme plusieurs l'ont sans doute deviné, des prévisions de la météo. Mais, d'où viennent ces prévisions? Comment les fait-on? Aujourd'hui, nos météorologistes peuvent prévoir le temps qu'il fera jusqu'à trois jours d'avance. Dans un avenir prochain, leurs prévisions pourront couvrir une période d'environ cinq jours.



ASSEMBLING THE FORECAST—Meteorologists at work in the forecast office, Montreal International Airport.

PRÉPARATION DES PRÉVISIONS—Météorologistes au travail, au bureau des prévisions de l'aéroport international de Montréal.

Au Canada, pays reconnu comme l'un de ceux qui, au cours des années, a le plus contribué à la recherche dans le domaine de la météorologie, nos méthodes de prévision du temps sont des plus avancées à l'heure actuelle.

Nos spécialistes à la Direction de la météorologie du ministère des Transports, gardant à l'œil les progrès technologiques dans le domaine des observations et des prévisions météorologiques, ont adopté et perfectionné de nouvelles techniques qui permettent aujourd'hui au Canada d'assumer un rôle de premier plan dans le cadre de la «veille météorologique mondiale» actuellement en voie d'organisation.

Depuis le commencement des temps, l'homme a cherché à comprendre, par tous les moyens à sa disposition, les processus dynamiques et physiques en cours dans l'atmosphère. Au cours des siècles, il a mis sur pied et développé diverses méthodes de prévision du temps.

Il y a quelques années, avec l'avènement de l'ère de l'automatisation, le météorologiste a enfin mis la main sur un instrument des plus précieux, soit la calculatrice. Grâce à cet instrument, on a espoir de pouvoir, dans un avenir prochain, prédire les changements de temps au moins cinq jours d'avance.

Une de ces calculatrices, conçue pour traiter les données d'observation du temps recueillies dans tout l'hémisphère nord, a été installée au Bureau central d'analyse du ministère des Transports à Dorval en 1962. Exploitée à son maximum, cette calculatrice a été récemment remplacée par une autre pouvant calculer plus rapidement et capable de traiter un plus grand nombre de données. Cette nouvelle calculatrice assimile les données qui lui sont fournies en un temps dix fois plus rapide que la première. On estime qu'elle peut faire 350,000 opérations mathématiques à la seconde.

Les météorologistes du monde entier ont aujourd'hui adopté la méthode mathématique pour résoudre le problème de la prévision. Alors que, dans le passé, le météorologiste comptait presque exclusivement sur son expérience et ses connaissances pour établir ses prévisions, il scrute maintenant l'avenir dans un nouveau genre de «boule de cristal» qui lui donne une vision plus nette des phénomènes futurs.

Autrefois, les services de prévision du temps avaient recours à la méthode synoptique, que l'on complétait par des techniques semi-objectives mises au point à la suite d'études de météorologie dynamique. En d'autres mots, le météorologiste, s'aidant de modèles synoptiques ou de cartes du temps représentant des situations atmosphériques typiques, faisait des prévisions basées sur son expérience et sur des analyses statistiques

incomplètes. Il s'agissait en fait de techniques subjectives auxquelles le prévisionniste appliquait ses théories de météorologie dynamique.

Des calculs comparables à ceux qu'effectuent nos calculatrices d'aujourd'hui ont d'abord été tentés par des météorologistes qui s'étaient déjà rendu compte, il y a plusieurs années, que l'application de la méthode mathématique au problème de la prévision du temps était de loin la plus apte à procurer des données à longue échéance et plus précises. On a vite réalisé cependant qu'il était impossible à l'homme seul de faire à la main les millions de calculs impliqués dans les équations mathématiques complexes que comportait cette méthode. Rien que le temps passé à faire les calculs aurait suffi à rendre impossible la prévision. On estime, en effet, que 64,000 personnes travaillant 24 heures sur 24 pourraient à peine espérer terminer en un jour ce que la calculatrice peut maintenant faire en une seule série d'opérations.

Dans le langage du météorologiste, on définit la prévision numérique du temps comme une technique utilisant des calculs numériques pour prévoir l'évolution dynamique et thermodynamique de l'atmosphère. Jim Leaver, responsable du Bureau central d'analyse de Dorval, accompagné des chefs des différents services formant le B.C.A., Ralph Anderson, (analyse et pronostic), D. E. McClellan (prévision à période prolongée), M. Kwizak (mise au point opérationnelle et évaluation), et J. Simla (services des calculs), nous a fait visiter le Bureau central d'analyse, nous expliquant comment cette technique est appliquée ici au Canada.

Pour effectuer ses prévisions, le B.C.A. reçoit des données d'un réseau composé de 2,500 stations d'observation météoro-

THE "CUSTOMER"—*This prairie farmer, like many other Canadians, depends on the long range and accurate forecast for information essential to his livelihood.*

LE "CLIENT"—*Ce cultivateur des Prairies, comme bien d'autres Canadiens, compte sur les prévisions à long terme et exactes qui lui fournissent des renseignements essentiels à son travail.*

logique en surface et de 700 stations d'observation en altitude situées à des points stratégiques à travers l'hémisphère nord.

Les stations de surface transmettent des messages d'observation météorologique au Bureau central régulièrement, soit toutes les six heures. Les stations d'observation en altitude, de leur côté, envoient leurs données deux fois par jour. Dans certains cas, on essaie d'augmenter le nombre des observations à quatre par jour. Ces données portent sur la pression, la température, le vent et l'humidité.

Les stations d'observation en altitude obtiennent leurs données à l'aide de ballons météorologiques qui s'élèvent jusqu'à 100,000 pieds. Ces ballons sont munis de dispositifs très sensibles pour mesurer les paramètres météorologiques dans l'atmosphère. Les données sont transmises par radio à des stations réceptrices au sol, puis relayées par téléscripteur au B.C.A. grâce au système de communications météorologiques.

Les trois principales fonctions du Bureau central d'analyse sont l'extraction des données, l'analyse et la prévision. Tous les messages chiffrés que l'on reçoit des diverses stations d'observation doivent être systématiquement vérifiés; ceci, afin de s'assurer que tous les renseignements retenus pour étude ultérieure dans le cycle du traitement soient dignes de foi et exempts d'erreurs. Sur plus de soixante-douze pièces d'information fournies par chaque station, environ cinquante sont extraites après vérification, et celles-là seulement constituent les données dont on se sert pour l'analyse objective. On évalue à environ 50 millions le nombre des opérations mathématiques qu'effectue la calculatrice uniquement pour l'extraction des données.

On reçoit ces données par téléscripteur

sur ruban de papier perforé. La donnée, minutieusement examinée au moyen d'un lecteur de bande en papier, est alors transmise électroniquement à une bande magnétique avant d'être confiée à «l'ordinateur centrale».

La phase suivante du processus consiste dans l'analyse des données et la prévision. Pour cette étape, on estime que le nombre des opérations mathématiques impliquées peut aller jusqu'à 200 millions, selon le nombre de données introduites dans la calculatrice.

Et la calculatrice effectuera toutes ces opérations mathématiques complexes en neuf minutes exactement!

Le résultat final du calcul est la production d'une grande carte du temps sur laquelle apparaissent les configurations de la circulation de l'air dans la haute atmosphère au-dessus de tout l'hémisphère nord. Grâce à cette carte, le météorologiste a en mains une bonne description de toute la situation et peut ainsi prévoir les conditions atmosphériques 72 heures à l'avance.

Des sections de cette grande carte comportant des données propres à certaines régions du Canada sont ensuite envoyées, par le Bureau central d'analyse, aux centres régionaux, qui y ajoutent un plus grand nombre de données de nature plutôt régionale.

Enfin, le produit fini nous est officiellement transmis dans une forme qui peut ressembler à ce qui suit: «Une grande zone de haute pression dont le centre est au-dessus de la partie nord du pays continuera de donner un ciel ensoleillé dans toute la partie centrale du Canada. Un léger courant d'air frais venant du nord maintient les températures à quelques degrés au-dessus de la normale pour cette période de l'année.» . . . ou encore, parfois: «Fuyez! Un ouragan approche!»



A LOCAL BOY WHO MADE GOOD

by Norman Avery

Tom Appleton Jr. is 26 years old and should be the envy of every red-blooded Canadian boy who hopes some day to be a pilot.

In the nine years since he first soloed at the Ottawa Flying Club, Tom has flown aero survey in hinterland Canada, Nigeria and the Ivory Coast and Surinam in South America.

Right now he is spending his honeymoon in Spain while on training duty with the Spanish air force for his employer, de Havilland Aircraft of Canada.

But before the starry-eyed potential pilot rushes out to join the so-called pilot shortage, he might heed the advice of the local boy who made good.

"Choose the company you want to work for," said Tom, "and then wash and gas airplanes until you work your way into the pilot's seat."

Tom is the son of Mr. and Mrs. Tom Appleton Sr., who are as deeply involved in sailing as their son is in flying.

Tom Sr., a well-known member of the D.O.T. staff currently writing a history of Marine Services for the department, is a former commodore of the Britannia Yacht Club in Ottawa.

Too many private pilots are disillusioned by the brick wall they hit when they start applying for jobs with a minimum of experience.

News of a pilot shortage often fails to mention that the situation is still mainly on paper and that the seasonal shortage now is for "qualified" pilots. And it is the qualifications that tend to keep sliding just beyond the reach of the candidate.

Tom Appleton has had his eye on the left seat of an interesting airplane for several years that I have known him. He



was one of two private pilots who braved the rigors of winter and an awkward radio in a J-3 Cub to build hours.

More squeamish and better-heeled pilots preferred the comfort of heat and push-button navigation, but hours were hours and the price was about half that of the more modern aircraft.

Within a year of those training days, Tom was flying an Aztec for Spartan Air Services in the Arctic. That was 1961 and he stayed for two years. In 1963 he joined Survaire Limited for two years and flew survey in Africa.

With primitive aids to navigation and the demands of precision flying, the African scene is just about the ultimate in training grounds for the pilot who thinks he has learned everything. The same might be said for the rain forests of Surinam where Tom flew with Survaire.

At this time he was described by his chief pilot as one of the company's greatest assets.

Nearly two years ago, Tom again picked his company and joined the flying staff of de Havilland demonstrating, in particular, the Twin Otter.

Last week, he was pacing the tarmac at Downsview waiting for the end of formalities of the official handover to the Spanish air force of the first six Caribou aircraft.

The next morning, he took command of the Caribou for the flight to Spain with a group of Spanish pilots. He will remain two months, checking out military pilots on the nimble transport plane.

His off-duty hours will be spent touring Spain with his bride of Dec. 16 who joined him after a visit in England. Tom met Heather Kilgour while he was demonstrating flying at Farnborough in 1966.

Norman Avery is a freelance writer whose column "Aviation" appears weekly in The Ottawa Citizen.

the flying lab adds new dimension to teaching

by Bryan Goodyer
Information Services Division

The odd-looking four-engined DC-4 settled onto the runway in a perfect three-point landing, then taxied onto a parking apron just outside the offices of the Air Services Training School at Ottawa International Airport.

Inside, 11 students who, for the past two weeks, had been studying radar and avionics theory, threw on their overcoats and headed out across the tarmac to board the aircraft.

The plane, one of two leased by the Meteorological Branch of the Department of Transport from Kenting Aviation Limited of Toronto, was being temporarily used as a classroom while on a

routine patrol of the St. Lawrence Seaway.

A two-day layover at the school was arranged so the students could gain operational experience in the techniques of ice observing utilizing the sophisticated electronic equipment on board the aircraft.

"Flight training is playing an increasingly important part in the instruction given at the Air Services School," said A. A. (Art) Johnson, superintendent of the D.O.T. establishment which last year had more than 14,000 students enrolled in 98 courses.

Mr. Johnson said that the in-flight

training given to student air traffic controllers and radio operators is always one of the highlights of each course.

One of D.O.T.'s DC-3's, CF-DTB, has been specially equipped with a communications system which permits the students to tune in on all radio contacts made by the pilot with the various towers, ATC centres and radio range stations.

In addition, the instructor provides a running commentary throughout the flight. Students follow the flight's progress on charts and gain a good understanding of what is involved in flight operations.

The flight also shows them how important their roles are to aviation—roles that they will be playing soon in real life, as in-flight training takes place just before graduation.

Some courses for electronics technicians also involve flying. The course in flight checking of navigational aids requires about one week of in-flight training in one of the specially-equipped "flying laboratories" used for checking the accuracy and reliability of the navigational facilities across the country.

Courses in maintenance and adjustment of navigational facilities such as ILS and VOR also require the use of aircraft for short periods while teaching certain techniques.

In the case of those taking the final phase of the ice-observing course, the chance to go up with the DC-4 under the supervision of the radar and navigation instructors means an opportunity to put the theory they learn in the classroom to work.

"This part of the training is designed to increase the ice observers' awareness of the capabilities and limitations of these electronic aids to ice reconnaissance," is the way Gerry Flucke, one of the three instructors who give the students ice observing theory explains it.

Gerry's lectures are backed up by those of Emil Stasyshyn, an instructor from the Met. Branch in Toronto who



Students learn the ropes.

has been involved with the ice observing course for the past nine years and Jacques Le May, an instructor with the Telecommunications and Electronics faculty of the Air Services School.

"The equipment aboard the ice observing planes is the most sophisticated ice reconnaissance system used anywhere in the world," explained one of the instructors as the trio explained the equipment and how it is used by the 20 trained ice observers who work for the Department of Transport.

The observation of ice on a large scale began in 1956 when the D.O.T. started training ice observers and began the job of providing information to shipping.

In 1966, a five-year contract worth \$5,000,000 was awarded to Kenting Aviation which supplies two DC-4 aircraft modified to carry close to \$500,000 worth of equipment used to plot the movement and location of ice on special charts for distribution to ships working in the Gulf, the Great Lakes or in the Arctic.

"This is actually the first course of this type," said Gerry Flucke, who explained that in future the operational flight experience would be the climax of 10 consecutive weeks of ice observing training.

The students will spend the initial two months of the course in Toronto and then take the final two weeks in Ottawa.

Why are the last two weeks given in Ottawa?

"We have the training facilities and staff here," replied one of the instructors, "and in addition can draw on the resources of other branches of the D.O.T. (Civil Aviation and Telecommunications and Electronics branches), Computing Devices of Canada and the Canadian Armed Forces (RCAF) in Ottawa.

The "average" ice observer, it was explained, stays on the job about two or three years and the position is often a steppingstone in the careers of meteorological technicians.

"Most of them, however, are in it because they like the work and the travel," said Gerry.

Outside on the parking apron, the students were giving the DC-4 the "once over."

Extensive modifications have given it a strange look. The forward portion of the fuselage is topped by a transparent oval-shaped dome canopy which shelters the main observing position.

Under the belly protrudes a large fibreglass "radome" which houses the radar antenna.

The metallic structure of the doppler radar aerial can be seen to the rear.

The interior bears little resemblance to that of a conventional airliner. Instead of neatly-aligned rows of seats, the

space is occupied by numerous cabinets housing what looks like an elaborate laboratory.

There is also office space, a galley and a rest area with bunks.

The storage area carries an impressive array of engineering tools and spare parts including one complete spare engine and a mountain of survival equipment and rations in case the aircraft should be forced down somewhere in the Arctic wasteland.

Right behind and above the pilots sits the principal visual ice observer. He is the key man and is responsible for mapping the ice as observed along the path followed by the aircraft.

His eyes must constantly scan the area around him while the plane is in flight, assessing such sea-ice features as coverage, size and individual pieces, age and topography.

The electronic and navigational console bears some similarity to those found in the control room of any radio broadcasting station. It is manned by the radar ice observer, a navigator and an avionics technician who also assists the navigator.

An overall precision navigation system provides a high degree of position accuracy, so necessary in the charting of ice conditions as well as enabling the aircraft to rendezvous with ships requiring tactical support.

Flights frequently are of long duration. Sorties of up to 12 hours are common and at certain seasons Arctic reconnaissance involving up to 20 hours of flying a day for three to five consecutive days have become routine.

Thus the job of ice observing is one that is becoming increasingly more important, not only in terms of the saving of precious time and money, but in the recruiting and training of qualified per-

sonnel in the Air Services school's flying classroom.

By this time, the students were aboard the aircraft meeting the navigator, the avionics technician, and the ice observer who would familiarize them with the plane's equipment, so that they would be ready for the two operational flights planned for the next day which would give them a chance to use this equipment operationally.

"It's great," said Denis Blanchard of Montreal when asked about his job. "I wouldn't trade it for anything."

"I like it very much," added Jack Power, a native Newfoundlander who now makes his home in Toronto. "It gives you the chance to travel and do things the average guy will never do."

Jack, prior to his appointment to the ice observing course, was a member of the crew of the Canadian Coast Guard Ship *John A. Macdonald* when it made an historic voyage through the Northwest Passage late last year and went to the aid of a crippled United States Coast Guard cutter stranded deep in the polar ice pack at the top of the world.

It was under these conditions that Jack was called upon to put his training and experience to work as the ship picked its way through the treacherous ice.

"It was pretty grim for a while but we hung on and finally got a lucky break when the wind shifted," Jack recalled.

Up front the students were being called to attention by their instructors. The time had come to get down to specifics in preparation for the flights the following day.

"Let's call this class to order," said one of the instructors as he moved to the front of what must be one of the most unusual classrooms in Canada.



Ice observers at work.

QUAND LES GLACES S'EN MÊLENT

Presque toute la flotte de brise-glace du ministère des Transports a été mobilisée, en janvier dernier, pour briser les embâcles créés dans le fleuve Saint-Laurent par suite d'une vague de froid intense exceptionnellement longue. En tout, neuf brise-glace de la Garde Côtière ont lutté d'arrache-pied contre les glaces pendant au moins trois semaines avant de réussir enfin à dégager complètement le chenal maritime depuis Québec jusqu'à Montréal. Jamais avait-on vu un tel déploiement de brise-glace à l'œuvre dans cette seule section du fleuve.

Pendant les mois d'hiver, nos brise-glace patrouillent constamment le chenal maritime précisément pour empêcher la formation de ces embâcles, principale cause d'inondation des terres basses, particulièrement aux environs des îles de Sorel. En temps normal, deux ou trois navires peuvent suffire à cette tâche dans la section du fleuve s'étendant entre Trois-Rivières et Montréal.

Cette année cependant, face à une situation pour le moins exceptionnelle, il a fallu faire appel à neuf brise-glace, dont deux, le «*John A. Macdonald*» et le «*d'Iberville*», sont les plus lourds de la flotte actuellement. Les autres navires déployés pour mener à bonne fin l'opération «*déglaçage*» étaient le «*N. B. McLean*», le «*Ernest Lapointe*», le «*Wolfe*», le «*Montcalm*», le «*J. E. Bernier*», le «*Labrador*» et le «*Simon Fraser*».



Après avoir d'abord brisé l'embâcle au pont de Québec, les navires ont remonté le fleuve en bousculant la glace sur leur passage jusque dans le port de Montréal.

Dans la photo 1, trois brise-glace, le «*John A. Macdonald*», à gauche, le «*d'Iberville*», au centre, et le «*J. E. Bernier*», à l'arrière-plan, s'attaquent à l'embâcle aux environs de Québec.

La photo 2, prise du pont du «*John A. Macdonald*», fait voir le champ de glace qu'il faut franchir. Le capitaine Wilfrid Dufour, à gauche dans la photo 3, analyse d'un air inquiet la situation

à laquelle il doit faire face. Il paraît à bord du «*d'Iberville*» en compagnie d'un pilote dont les services sont requis pour la navigation dans le fleuve.

Dans la photo 4, le «*John A. Macdonald*» fonce dans un champ de glace. A l'arrière-plan, on voit le pont de Québec.

A bord du «*d'Iberville*», dans la photo 5, un opérateur radio demeure en contact avec les autres navires de la flotte et transmet au centre de contrôle de la navigation, à Québec, les derniers développements dans la lutte contre les glaces.





4
5

BATTLING THE BIG FREEZE

The big job began after an exceptionally long cold spell last January turned the St. Lawrence River into a 200-mile ice jam between Quebec City and Montreal.

Since the ice is the principal cause of flooding in the lower regions of the river, particularly around the Sorel Islands, the St. Lawrence is usually patrolled constantly by ships of the Canadian Coast Guard.

This year, however, it took nine icebreakers of the D.O.T. fleet about three weeks to clear the channel from Quebec to Montreal.

Led by the icebreakers *John A. Macdonald* and *d'Iberville*, largest of the present fleet, the nine ships included the *N. B. McLean*, *Ernest Lapointe*, *Wolfe*, *Montcalm*, *J. E. Bernier*, *Labrador* and *Simon Fraser*.

In photo 1, the *John A.*, left, the *d'Iberville*, centre, and the *J. E. Bernier*, right, tackle the big jam head on near the outskirts of Quebec City.

Photo 2, taken from the bridge of the *John A.* shows the solid icefield facing the ship.

Captain Wilfrid Dufour (photo 3) and a river pilot watch closely as the *d'Iberville* moves into the ice pack.

In photo 4, the *John A. Macdonald* crunches into the ice just west of the Quebec bridge (background).

In photo 5, Emile Bonneau, chief radio officer aboard the *d'Iberville*, maintains contact with the other ships and with the navigation control centre at Quebec to keep officials informed of the latest developments in the battle against the ice.





LIGHTING UP AN ISLAND—Photo far left shows East Ironbound Island as seen from the air. Left, CCGS Mink proceeds toward the island as crew lays the cable. Lower left, Sid Forward, base electrician, prepares a splice in the 7,200-volt cable. Fourth photo shows the 100-year old lighthouse, the ubiquitous hydro pole behind it signifying the last step in connecting the station to mainland electricity.

submarine cable brings power to tiny island

by B. M. Williams
*Assistant District Engineer
 Department of Transport
 Marine Services Base
 Dartmouth, N.S.*

Four miles off the Nova Scotia mainland and 20 miles east of Captain Kidd's treasure pit, Oak Island, lies East Ironbound Island.

The island, so named because its high cliffs are stained red from iron deposits in the rock, is populated by nine families of hearty Lunenburg-Dutch fishermen that include a D.O.T. lightkeeper, his wife and son.

All year long the men of the island fish together, splitting their profits equally.

In winter and spring, they catch lobster and mackerel while, during the summer, cod and pollock are caught with set nets. In the fall, herring is the catch.

The men are good fishermen and have

equipped their island homes with all the most modern conveniences. In addition, each family has its own wharf at New Harbour on the mainland equipped with a garage containing a late model car.

The island children are taught in a one-room school from grade one to grade nine. Their education is completed on the mainland where they board in Chester and return home for the holidays.

Cattle and chickens provide the island with its milk and eggs. Gardens provide all the vegetables needed with special emphasis put on cabbage and Bluenose potatoes. The island is famous for its sauerkraut, locally called "kraut" and for its salt herring with blue potatoes.

The only thing lacking on the island was electric power and here is where the Department of Transport came in.

The first light was installed on the island 100 years ago and has operated continuously ever since without electric power.

Then late last year, Lightkeeper Charles Finck, a native of the island and a fulltime fisherman, was notified that plans were underway to install a fog alarm on the island.

To operate the alarm, a source of electric power was needed and so it was decided that a submarine cable would be installed to carry the power lines to East Ironbound.

The planning of the operation was spread over many weeks. This was our second major submarine cable job, the first having been Cape Negro Island, and therefore a lot of the planning and special equipment used at East Ironbound was developed on the Cape Negro job.

The cable-laying operation started at first light around 6 a.m. and the D.O.T. crew aboard the Canadian Coast Guard Ship *Mink* commanded by Captain T. M. Hicks had finished by 9 p.m. of the same day.

The cost of the job was about \$20,000, not including the ship's time for a 7,200 volt cable connecting East Ironbound with the mainland.

And so the benefits of electricity came as a sort of Centennial gift to the people of East Ironbound Island who had for years depended on small 2.5 kilowatt generators to light their homes, oil furnaces for heat and kerosene-powered refrigerators to keep their food.



FLORIDA ON \$3.80 A DAY

Jean Choquette, a 19-year-old personnel clerk at headquarters, knows a lot about transportation.

As a reporter who met him in Florida this winter wrote: "Jean will probably go back to Canada and write a book called 'How to see the U.S.A. on \$3.80 a day, including transportation.'"

It all started when Jean found he had 11 days of his annual vacation coming to him. The sum total of his resources, however, was only "about 42 dollars."

Then, just before two of the girls in the office, Lise Mallette, 21, and Nicole Laviolette, 19, left for Florida by jet Jean jokingly said he'd meet them there.

"Well, the more everybody in the office kidded me about it, the more I decided to go," said Jean.

The young adventurer left Ottawa, hitchhiked to Toronto and then to Hamilton where, after a short delay, he succeeded in getting a ride with a Florida-bound produce truck.

"I slept sitting up and lived on four hamburgers a day, but I made it," recalled Jean. "Although I had to unload part of the truck's cargo in Philadelphia as part of the trip, I made it to Miami on \$15."

The trip down took three and one-half days (through 10 inches of snow and a temperature of 15 degrees at one spot) over a distance of 2,000 miles.

"The girls were sure surprised to see me, though," laughed Jean. "They couldn't get over it."

Coming back after spending the better part of a week in Florida where, incidentally, he has never been before, Jean took a bus to Pompano Beach near Fort Lauderdale where he met a Montreal-bound truck driver who was unloading his truck at the Farmers Market.

"From there, I got a ride all the way to Montreal," said Jean.

"The only hard part of the trip was getting a ride from Montreal to Ottawa," he said. "I finally had to give up and take the bus."

And what does he plan to do with his vacation next year?

"I'm going to try to make Germany next summer," replied Jean. "You see, I'm going to hitchhike to Montreal and work my way over on a ship, then..."



EN FLORIDE SUR UN BUDGET DE \$3.80 PAR JOUR

Il va sans dire, Jean Choquette, un de nos commis aux Services du personnel à Ottawa, s'y connaît en matière de transport. Un journaliste qui l'a rencontré en Floride cet hiver disait à son sujet: «A son retour au Canada, Jean écrira probablement un volume sur les moyens de visiter les États-Unis sur un budget de \$3.80 par jour, y compris les frais de voyage.»

Notre histoire remonte à quelques mois lorsque Jean, qui est âgé de 19 ans, apprit que deux compagnes de travail, Lise Mallette, 21 ans, et Nicole Laviolette, 19 ans, s'apprêtaient à s'envoler pour des vacances en Floride. «Je vous reverrai là-bas!», dit-il en plaisantant.

Jean, certes, n'était pas sérieux, mais ses confrères au bureau l'ont tout de même pris au mot et n'ont cessé de le taquiner jusqu'au jour où il a enfin décidé de faire le voyage, coûte que coûte.

Avec onze jours de vacances et \$42 en poche, il entreprend la première étape de son voyage, sur le pouce, d'Ottawa à

Toronto et, de là, à Hamilton. Ici, il rencontre un camionneur qui le conduira jusqu'en Floride.

De Hamilton à Miami, avec un bref arrêt à Philadelphie où l'on décharge une partie de la cargaison à bord du camion, le voyage dure près de quatre jours. «J'ai dormi, assis, rappelle Jean, et je me suis nourri de «hamburgs» pendant quatre jours.» A son arrivée à Miami, il restait \$27 dans ses goussets.

«J'ai tenu promesse, dit-il. J'ai vu Lise et Nicole.....Elles n'en revenaient pas.»

Après avoir passé près d'une semaine en Floride, Jean entreprend le voyage de retour. Un autobus le conduit à Pompano Beach, près de Fort Lauderdale. Là, il rencontre un autre camionneur qui le ramène jusqu'à Montréal.

«C'est aussi simple que cela, précise Jean. Le seul obstacle sur mon trajet, c'est à Montréal que je l'ai rencontré. Je n'ai tout simplement pas réussi à dénicher une âme charitable pour me conduire à Ottawa et j'ai dû me résigner à prendre l'autobus.»



breaking new ground

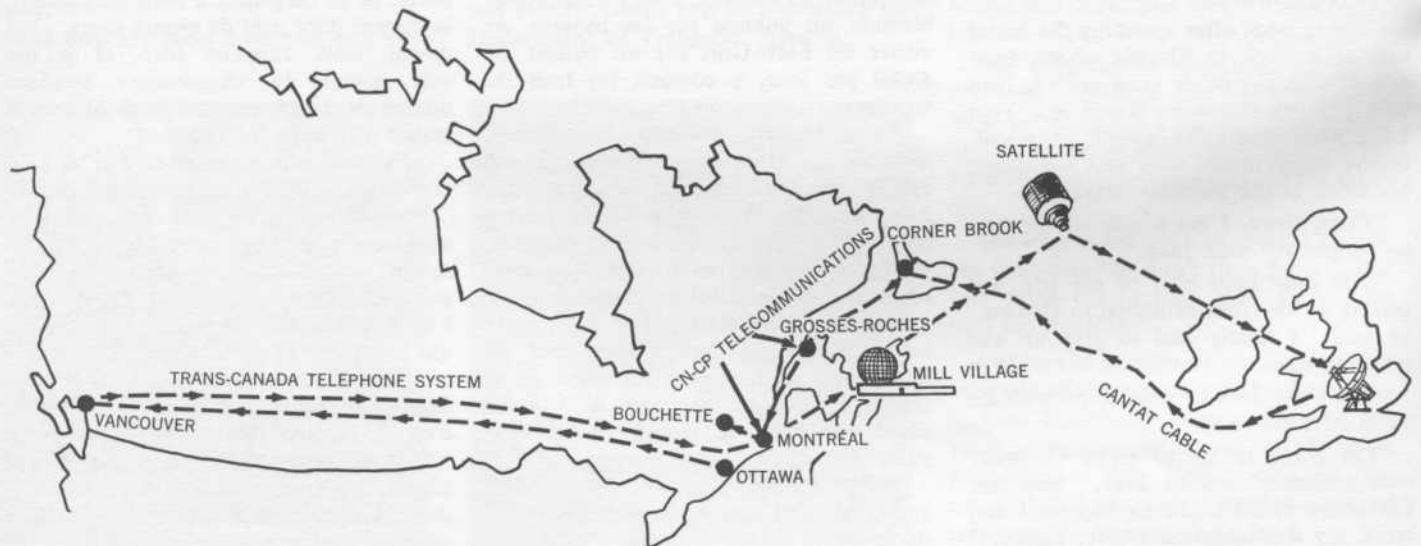
A first step toward the creation of a domestic satellite communications system was taken recently when Transport Minister Paul Hellyer, in an Ottawa ceremony, flashed a coded signal over a 55,000-mile circuit to detonate an explosion in Bouchette, Que., 70 miles away.

The blast marked the ground-breaking for an experimental satellite communications earth station being built by Bell Canada Limited for completion in mid-1968.

The earth station is being built to test the use of communications satellites to provide telephone, live television and other telecommunications services to Canada's far north.

Photos show the ceremony (guests saw the blast on closed circuit television), the route taken by the coded signal, a model of the station and an artist's conception of what it will look like when completed.

BOUCHETTE GROUND-BREAKING CEREMONY
ROUTE OF DETONATION SIGNAL



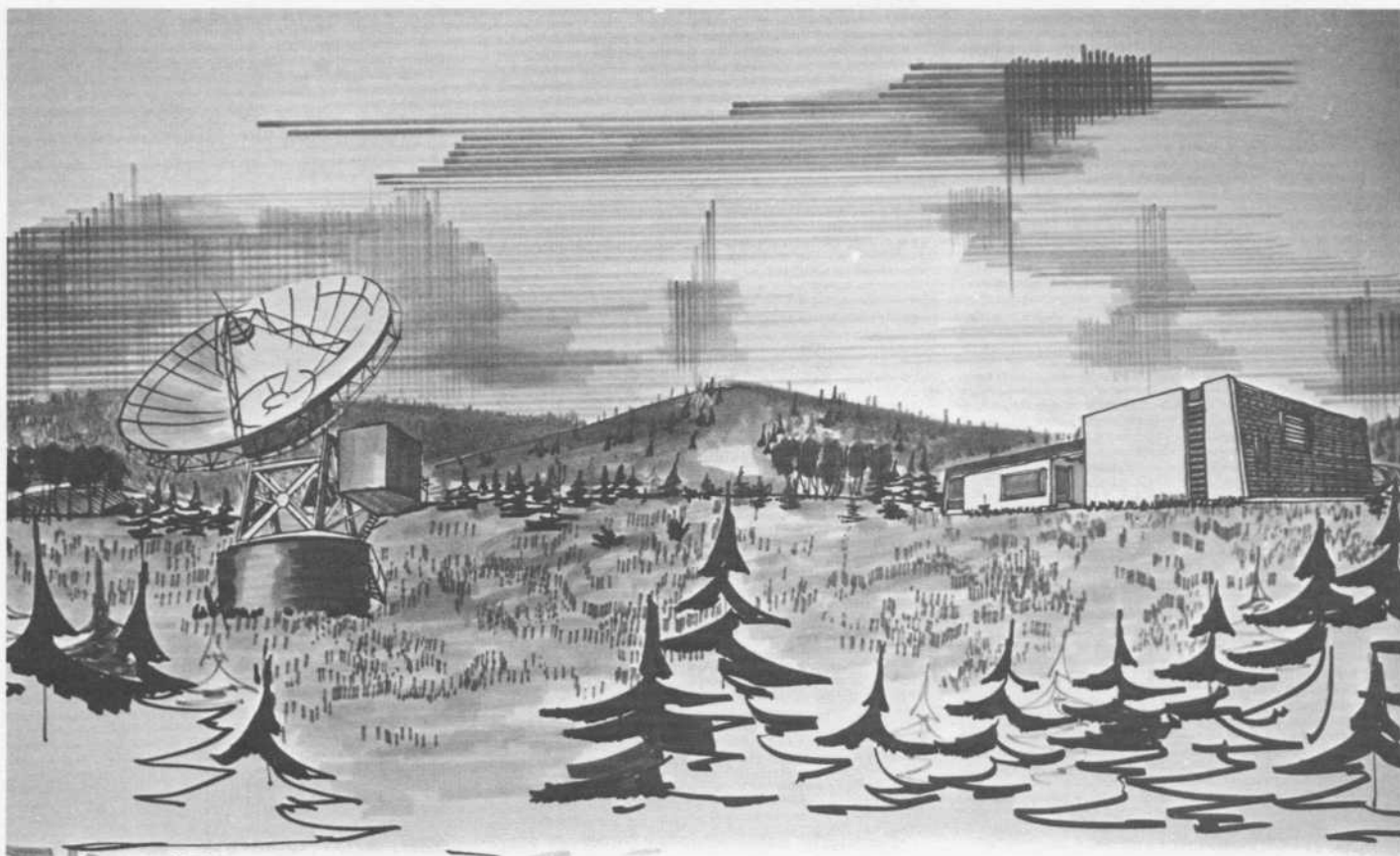
innovation

Au cours d'une cérémonie qui a eu lieu récemment à Ottawa, le ministre des Transports, M. Paul Hellyer, a envoyé un signal codé sur un circuit de 55,000 milles pour déclencher une explosion à Bouchette (Qué.) à 70 milles de la capitale, ce qui marque un premier pas vers la création d'un réseau national de communication par satellite.

L'explosion inaugurerait la construction par la compagnie de téléphone Bell du Canada Limitée d'une station terrienne expérimentale de communication par satellite qui est censée être terminée au milieu de l'année 1968.

La compagnie construit cette station terrienne dans le but d'effectuer des essais d'utilisation de satellites de communications pour assurer au Grand Nord canadien des services de téléphone, de télévision en direct et d'autres services de télécommunications.

Les photos représentent la cérémonie (au cours de laquelle les invités ont vu l'explosion grâce à un circuit fermé de télévision), la route suivie par le signal codé, une maquette de la station et une conception artistique de l'aspect que prendra la station une fois terminée.



appointments

research

Raymond R. Cope, 37, director of the Transportation Policy and Research Branch, has been appointed a member of the Canadian Transport Commission by Governor-in-Council.

As a commissioner, Mr. Cope will, under the supervision of the president of the CTC, organize and direct the development of the facilities and program of research within the broad field of transportation in Canada.

Mr. Cope was appointed director of transportation policy and research on Feb. 25, 1966.

Previous to that, he had been on loan from Canadian National Railways since 1964 and occupied the post of director of the Railway and Highway Branch of the department.

A native of Vancouver, B.C., Mr. Cope graduated from the University of British Columbia in 1953 with a Bachelor of Science degree in mechanical engineering. He also took post-graduate studies in economics at McGill University.

From 1953 to 1964, he was engaged in research and development with the CNR and was associated with Canadian National Hotels.

Mr. Cope is vice-president of public



R. R. Cope

relations for the Transportation Research Forum, a past president of the Canadian Transportation Research Forum and a member of the Engineering Institute of Canada. He is married and has two children.

Mr. Cope will be succeeded as director of transportation policy and research by E. Lorne Hewson, 43, formerly general superintendent of transportation with the Canadian National Railways' Atlantic region.

Mr. Hewson, a native of Kamloops, B.C., is a graduate of the University of



E. L. Hewson

British Columbia where he obtained his Bachelor of Science degree in mathematics and physics.

He joined the CNR in British Columbia in 1943 and served in various capacities until 1956 when he came to Eastern Canada as a research analyst in CN's research and development branch in Montreal.

Married and the father of two sons, Mr. Hewson is a member of Rotary International, the Canadian Railway Club and is active in the Boy Scout movement.



Capt. Williams

district manager at Saint John

Captain Guy James Michael Williams assumed his new appointment as district manager of the Marine Services' base at Saint John, N.B., late last year.

Capt. Williams has filled the vacancy created by the promotion of the base's former district manager, Captain E. O. Ormsby, now district manager at Dartmouth, N.S.

Formerly supervisor of pilots at Hali-

fax, Capt. Williams, who is 44 years of age, is married and has three children.

A native of Ostrea Lake, N.S., he entered the government service in 1941 as a seaman on board the Canadian Government Ship *Lady Laurier* and rose to become master of the Canadian Coast Guard ships *Bernier* and *Edward Cornwallis* prior to his promotion to supervisor of pilots at Halifax.

new position

Melvin Garfield Hagglund, 49, former deputy superintendent of the strategic plans and policies forecast division of the Met. Branch, is now at work at his new appointment as chief of airports planning and research.

In this position, a new one which comes under the office of Eric Winsor, director of the Airports and Field Operations Branch, Mr. Hagglund will be responsible for the planning of airport ground facilities and services.

He will also be responsible for maintaining liaison with other branches, other departments, outside agencies and the aviation industry in the co-ordination of plans.

A native of Beatty, Sask., Mr. Hagglund served more than four years with the Royal Canadian Air Force as a navigator both in Canada and overseas during the Second World War.

He graduated from the University of

British Columbia in 1949 and from the University of Toronto in 1950 with an M.A. in physics (meteorology).

In June 1950, Mr. Hagglund joined the Met. Branch as a duty forecaster in Edmonton where he spent four years that included a one-year tour of duty as officer in charge of the weather station at Resolute Bay, N.W.T.

Other appointments included a posting as superintendent of Arctic meteorology in the basic weather division at Met. headquarters in Toronto and service on loan to the Royal Canadian Navy and the Canadian Army where he served in Dartmouth and Halifax, N.S., aboard H.M.C.S. *Magnificent* and at Army headquarters in Ottawa.

A member of the Canadian Meteorological Society and the Professional Institute of the Public Service of Canada, Mr. Hagglund is married and has three children.



M.G. Hagglund

telecom advisory bureau adds two new members

Two more members recently appointed to the Government Telecommunications Policy and Administration Bureau have assumed their new appointments in Ottawa.

The two are J. R. Marchand, 37, and E. R. Bushfield, 44.

Mr. Marchand, who has had wide experience in the international telecom-

munications field in Canada and served as executive secretary of the world-wide Interim Communications Satellite Committee in Washington before coming to the Capital, is now head of the bureau's international division.

Mr. Bushfield, who has extensive knowledge of industry in Canada both in private industry and lately as a division

chief in the Department of Industry, heads the bureau's national policy division.

In his new position, Mr. Marchand is co-ordinating plans for international telecommunications conferences and meetings which involve the bureau, the government and Canadian industry.

Mr. Bushfield's division is responsible for formulating and recommending domestic telecommunications policies for Canada.

A native of St. Boniface, Man., Mr. Marchand was educated at the University of Manitoba.

After serving in the Royal Canadian Air Force and with the Manitoba Telephone System, he joined the Department of National Defence.

He subsequently transferred to the radio regulations division of the Department of Transport where he served until his appointment to the ICSC in August 1965.

Mr. Bushfield holds degrees from the University of British Columbia and from the University of Toronto.

A registered professional engineer in the province of Ontario and a member of the Engineering Institute of Canada, he is married and has three children.



J.R. Marchand



E.R. Bushfield

À LA RETRAITE

Georges Gaudreau

D'ici quelques mois, un personnage en vue dans les milieux de la navigation au pays, le capitaine Georges-Édouard Gaudreau, agent régional des Services de la marine du ministère des Transports à Québec, prendra officiellement sa retraite après avoir passé plus de 40 ans de sa vie dans les services maritimes de son pays.

Né à L'Islet, au Québec, le 22 décembre 1908, Georges, fils de cultivateur, est le plus jeune d'une famille de 12 enfants. Ses frères, pour la plupart, ont trouvé carrières dans des disciplines s'apparentant aux choses de la terre, soit comme ingénieur forestier, arpenteur ou dans des sciences connexes. D'autres, comme leur père, sont demeurés cultivateurs. Une sœur, aujourd'hui décédée, s'est faite religieuse et est devenue Supérieure générale des Ursulines à Québec.

Georges, semble-t-il, est le seul de la famille qui ait eu un penchant pour les choses de la mer. Sa fille unique, Marjolaine, est aujourd'hui biologiste. Elle a épousé Jean-Pierre Bohémier, technicien et professeur en électronique de Shawinigan.

Avant tout de même de se faire matelot, Georges, tout comme ses frères, allait connaître la vie de collègue. Après ses études primaires à L'Islet, il entreprend son cours classique au Juniorat du Sacré-Cœur d'Ottawa. Cependant, à cause de son état de santé, il se voit obligé d'abandonner ses études à l'âge de 17 ans. Il venait de terminer sa première année de philosophie.

En avril 1927, il monte à bord de son premier navire, le «*Nayarit*», de Clarke Steamship. Ainsi débute sa carrière de matelot. En 1928, il passe au service de Canada Steamship Lines et navigue sur les Grands Lacs. Dès septembre de la même année, il commence son entraînement au long cours à bord des navires de Canadian National Steamship et d'Imperial Oil. Quelques années plus tard, soit en 1934, à l'âge de 25 ans, il décroche son certificat de «*capitaine côtier*».

En 1936, il épouse Alida Bélanger et, la même année, il assume son premier poste de commandant à bord du «*G.T.D.*», navire d'une nouvelle compagnie, la «*Davie Transportation*» qui se charge du transport du papier à journal entre Trois-Rivières, Gatineau, Québec et New York.

Lorsque la guerre éclate, en 1939, Georges devient 1^{er} officier à bord des navires-citernes de Panama Transport. Ces navires font la navette entre les

ports de l'Amérique du Sud, de la France et de l'Angleterre.

Un an plus tard, quand la France tombe aux mains des Allemands, Georges quitte les pétroliers pour passer au service de la Marine de guerre. Il devient officier de navigation à bord de la première corvette canadienne construite pour l'Amirauté. En 1941, il prend le commandement de cette corvette, le «*Trillium*». Ce navire servira d'escorte aux convois de l'Atlantique-Nord, empruntant la route entre l'Islande, l'Irlande et Terre-Neuve. Georges participera ainsi à quelque cinquante traversées de l'Atlantique. Il demeure à ce poste jusqu'en 1943 alors qu'on lui confie la responsabilité d'organiser les convois du Saint-Laurent. Il dirigera ces opérations de la base navale de Rimouski.

En 1945, lorsque la guerre prend fin, il passe au service du ministère fédéral des Transports à titre d'inspecteur des bâtiments du Saint-Laurent. En 1947, il devient surintendant des phares à l'Agence de la marine du ministère à Québec, et, en 1951, il est nommé agent régional des Services de la marine, poste qu'il occupera jusqu'au moment de sa retraite.

Le capitaine Georges-E. Gaudreau, récipiendaire de la Médaille du Centenaire, a également été maintes fois décoré pendant les années de la guerre. Il possède en effet au moins cinq médailles qui lui ont été décernées pour services rendus au cours du dernier conflit mondial.

Le capitaine Gaudreau termine une carrière bien remplie. Il se propose, avec son épouse, de voyager... par mer, il va sans dire, mais comme touriste cette fois et non comme capitaine de navire.



C. C. Warkentin

Cornelius ("Cornie") Warkentin, senior inspector of meteorology for the Winnipeg region, has retired after 27 years of service with the Meteorological Branch.

Mr. Warkentin was born in Russia and came to Canada in 1923. He graduated from the University of Manitoba with a Master of Science degree.

Following a tour of duty as a lecturer, he joined the Met. Branch in 1940 as an instructor. Eleven years later, he was appointed senior meteorological inspector for the region, the position he held until his retirement.

A luncheon sponsored by Winnipeg colleagues was held last November to honor Mr. and Mrs. Warkentin at which an attache case and travelling bag were presented to the couple by D. M. Robertson, regional meteorologist.

Among special guests at the affair was D. C. Archibald, chief of the basic weather division at Met. headquarters in Toronto.

Mr. and Mrs. Warkentin plan to remain in Winnipeg although they do have some travelling scheduled to visit members of their family in Europe and Africa.

Mrs. C. E. Fancy

Mrs. C. E. Fancy, a veteran of more than 21 years of government service, has retired from the Purchasing Branch of the Department of Transport.

Mrs. Fancy was treated to a small reception attended by close to 50 members of the branch as well as her son and several close friends.

The well-known typist, who is active in several ladies groups in the city of Ottawa and plans to take advantage of her retirement leave for a Florida vacation, was presented with a watch by J. A. Saint-Laurent, chief of purchases and contracts, as a going-away gift from her friends and fellow workers.

In addition to various other gifts presented individually by friends and staff, she also received a cake made in the form of a typewriter.

H. E. Davenport

Harold E. Davenport, regional airworthiness inspector for the Edmonton region, has retired after 20 years of service with the Department of Transport.

Mr. and Mrs. Davenport were guests of honor at a retirement dinner held at the R.C.A.F.A. (700) Wing, Edmonton, late last year.

About 110 friends from the aviation community attended the dinner.

Gordon Cameron, former commissioner for the Yukon Territory, provided an excellent commentary as master of ceremonies, while Jack McClure, acting on behalf of the regional controller of civil aviation, presented gifts to Mr. and Mrs. Davenport.

Mr. Davenport began his aviation career at Jericho Beach Air Force Station, B.C., in the spring of 1923.

From 1926 to 1936, he engaged in civil aircraft maintenance engineering on the west coast and from 1936 to 1947, his aviation activities were centered principally in Whitehorse and later Edmonton.

He joined the Department of Transport in Edmonton in August of 1947 as an airworthiness inspector.

The Davenports have moved to a relaxing English-style cottage on Shuswap Lake near Sorrento, B.C.

Ivan C. Milne

Ivan Courtney Milne, a principal clerk in the cargo section of Marine Services, has retired from the Department of Transport after 10 years of service.

Born near Fairfax, Man., Mr. Milne was educated in Saskatchewan where he taught school for a time.

From 1928 to 1940, he was a member of the Saskatchewan Civil Service. In 1940, he joined the Royal Canadian Air Force and served 14 years in Ottawa before retiring on Jan. 9, 1954.

From the air force, he went to the Joint Intelligence Bureau of the Defence Research Board and, in 1957, to the Department of Transport.

Mr. Milne and his wife, Mary, who have three children, capped Centennial year with the publication of a 31-page booklet which traces the Milne family tree back over the past 100 years.

Entitled "John George Milne and his descendants," the booklet was put together in about two months and published last December.

Ralph Bunt

A man who started out as a ship's radio operator and spent 37 years "interfering with interference" as a radio inspector has retired from the Department of Transport.

For Ralph Bunt, the early part of his government service was high adventure.

In 1926 he was radio operator aboard a revenue cutter engaged in trying to break up the lucrative, private foreign aid program of supplying rum to thirsty, prohibition-bound Americans.

There were storms which he recalls with no pleasure—one blanketed everything so heavily with ice that he barely managed to get a radio signal which helped the skipper find his bearings.

Nor did he get much pleasure when the customs officers seized \$40,000 in contraband rum hidden under a dock: the entire load "except for a few bottles that may have been quietly set aside" was poured down the drain.

Next, he went as a radio operator with the Hudson Straits expedition which in 1927 began a study of ice formation and other conditions in the area.



Mr. and Mrs. Bunt and W.A. Caton

Hayward Mercer

An upholsterer/carpenter with the Department of Transport at Gander International Airport has retired after more than 20 years of service.

At a gathering in his honor, Hayward Mercer was presented with numerous gifts and received the fond wishes of his friends and co-workers for a happy retirement.

Mr. and Mrs. Mercer have taken up residence in Bay Roberts.

J. P. Brooman

J. P. (Jack) Brooman has retired from the Telecommunications Systems Laboratory after more than 42 years of government service.

Mr. Brooman and his wife were honored at a reception at the Clark Memorial Centre in Ottawa where fellow employees presented Mr. Brooman with a gold watch and a photo of the TSL staff, and his wife with a travelling case.

"I started out in radio working after school and for a full year in a radio store in Oakville, Ont.," recalls Mr. Brooman. "We made everything then, including condensers, tube sockets and resistors; building radios was not just assembly."

"Anyway," he continued, "wireless was the big thing then so I took a course in operating and in 1925 joined the old Department of Marine and Fisheries at the ripe age of 17 years."

"I think I was the youngest operator in the service for nearly a year. I served my time on the old Lurcher Lightship with the old half-kilowatt spark transmitter and converted crystal receiver, and on the Canadian Ice Patrol with the Canadian Government Ship *Mikula*."

"We were working 56 hours a week on the coast stations then and six on and 12 off for 11 months straight could get a little tiring at times," said Mr. Brooman. "One of the compensations was that we were living in prohibition days yet we could buy rum for \$25 a five-gallon keg delivered."

"In 1927/28, I spent a year at Belle Isle that was one of the toughest years in the department, I think. Isolation was isolation then. We ran short of food, one operator got beri beri and another anaemia and the cook was sick so all told it was a bad year."

"Incidentally, the operator who relieved me that year died at Belle Isle and they had his body packed in ice for about three months before they could get it off.

"After that, I spent most of my time at Chebucto Head and Camperdown until 1938 when I was transferred to Ottawa after Air Services was set up," recalled Mr. Brooman. "I worked for about four years on installations and finally settled down in the Test Room (now the TSL) where I remained until I retired."

TRANS-CANADA

His 75th Donation

Ottawa—Herbert L. Land, acting director of the Marine Hydraulics Branch, recently made his 75th donation of blood at a Red Cross blood donor clinic held in the Capital.

The 65-year-old Mr. Land, who plans to retire Sept. 30, says he will likely make "one or two donations" before retiring.

Mr. Land, chief of the St. Lawrence Ship Channel division since 1958, is acting for Don Ripley, now completing a year-long total immersion course in French at Quebec City.

Drama at Baker Lake

Baker Lake, N.W.T.—The weather at this northern D.O.T. outpost, located 400 miles north of Churchill, Man., was not unusual for the time of year as Met. Technician Jack Hilton went about the business of making an upper air observation early one morning.

He had risen at 4 a.m. to complete his task. By 8 a.m. he was nearly through.

His weather report showed a layer of cloud covering 70 per cent of the sky about 2,000 feet above ground level, the visibility was good, the temperature was 30 degrees above zero and a north-west wind of 23 miles per hour was gusting to 30.

As he went about his work, he noted and watched with interest as a float-equipped Cessna 185 taxied into the lake in preparation for take-off.

Suddenly, while swinging into the wind, the craft was hit by a strong gust of wind and one wing tip went under.

Realizing the seriousness of the situation, Jack shouted for his co-worker, Met. Technician Marvin Steer. Together they dashed the 200 feet from the weather office to the lake shore, launched a 20-foot canoe equipped with a 10 horsepower outboard engine and set out



NEWEST ADDITION TO COAST GUARD—

A British-built Hovercraft, similar to the one shown above, will formally join the fleet of the Canadian Coast Guard this summer following operational and operator-training trials in the Vancouver area.

The SRN-5 (the craft shown is a Bell SK-5) was bought from the British Hovercraft Corporation at a cost of about \$490,000. This figure includes the cost of fitting the Hovercraft out as required for search and rescue duty, spare parts, electronic equipment and a hangar.

The craft is to be based in the Vancouver area where a heavy density of pleasure and commercial boating traffic will provide ample opportunity for the gaining of operational experience.

for the ill-fated plane, a distance of two to three-hundred yards.

By the time the pair reached the aircraft, it had overturned. Three of the four occupants were clinging to the pontoons. A fourth occupant had jumped into the frigid lake as the plane had overturned and was drowned.

The two rescuers pulled the shocked survivors into the canoe and took them to safety while waiting for help to arrive to find the missing man and recover the aircraft.

It was a day that the two technicians noted in their records as far from routine!

NOUVELLE ACQUISITION DE LA GARDE

CÔTIÈRE—Un hydroglisseur (hovercraft) de fabrication britannique, semblable à celui qu'on voit dans cette photo, passera au service de la Garde côtière canadienne au cours de l'été prochain après avoir subi des essais dans la région de Vancouver. L'achat du SRN-5 au prix d'environ \$490,000 a été conclu avec la British Hovercraft Corporation. Ce montant englobe les frais d'équipement de l'appareil en vue des opérations de recherche et de sauvetage ainsi que l'achat des pièces de rechange, le matériel électronique et l'aménagement d'un hangar. L'hovercraft aura son point d'attache dans la région de Vancouver où la forte concentration des embarcations commerciales et de plaisance fournira de nombreuses occasions d'acquérir de l'expérience opérationnelle. C'est en se basant sur cette expérience que le ministère décidera s'il y a lieu d'utiliser des appareils du genre dans les autres régions du pays.

Suggestion Winner

Ottawa—A suggestion that resulted in the use of what was thought to be rejected meteorological material has won a \$15 suggestion award for a D.O.T. employee.

D. W. J. Challis, a meteorological technician at Fort Churchill, Man., was granted the award after his suggestion was found to be an improvement in meteorological operations.

Salute to Flight at Gander

Gander, Nfld.—The unveiling of the Atlantic Ferry Memorial and the official opening of the Conquest of the Atlantic Museum here recently have established Gander's position in the history of aviation in Canada.

The Atlantic Ferry Memorial, a Lockheed Hudson bomber mounted on a black pedestal (see photo), was unveiled by Air Marshal Donald Clifford Tyndall Bennett, a retired Royal Air Force officer.

The memorial commemorates Nov. 10, 1940, when Air Marshal Bennett, then a captain, departed Gander at 2230 hours GMT in a prototype of the aircraft used to create the memorial.

Capt. Bennett led a flight of six other Hudsons and landed at Aldergrove, England, on Nov. 11, after 11 hours and 12 minutes in flight to make the first delivery of an aircraft to Britain across the North Atlantic during the Second World War.

The mounted aircraft, which was donated by Kenting Aviation of Oshawa, was obtained by a memorial committee headed by Jack James, airport manager at Gander International Airport.

Following the dedication of the Atlantic Ferry Memorial, the party, which included several federal and provincial officials, moved to the international terminal building where the first of three stages of the Conquest of the Atlantic Museum was opened.

The air museum was established at Gander through the efforts of Newfoundland Premier J. R. Smallwood and J. W. Pickersgill, former federal Minister of Transport and now president of the Canadian Transport Commission.

Gander se souvient

Gander, Nfld.—Le 10 novembre 1940, à 10h. 30 en soirée, un officier de l'ARC, le capitaine Donald Clifford Tyndall Bennett, aujourd'hui maréchal de l'Air à sa retraite, décollait de la base aérienne de Gander, Terre-Neuve, à bord d'un Lockheed Hudson, premier bombardier à être livré par voie des airs depuis le continent nord-américain jusqu'en Angleterre. La traversée de l'Atlantique-Nord s'est effectuée en 11 heures et douze minutes. Le capitaine Bennett dirigeait en cette occasion un groupe de sept bombardiers qu'on allait livrer à Aldergrove, en Angleterre. Pour commémorer l'événement, on vient d'ériger à Gander un monument approprié. Il s'agit en fait d'une réplique du bombardier Hudson montée sur un piédestal fait de pierres. C'est le maréchal de l'air Bennett qui a lui-même dévoilé le monument au cours d'une cérémonie marquant à la même

occasion l'inauguration officielle du Musée de la conquête de l'Atlantique. L'appareil servant de monument est un don de Kenting Aviation d'Oshawa. Il a été obtenu grâce aux efforts déployés par un comité dirigé par M. Jack James, administrateur de l'aéroport international de Gander. Le musée de l'Air, de son côté, est dû à l'initiative du premier ministre de Terre-Neuve, M. J. R. Smallwood, et de l'ancien ministre des Transports, M. J. W. Pickersgill, maintenant président de la Commission canadienne des transports.

"Hay for Honey"

Horses still have a place in our operations, says the Victoria Marine Agency Newsletter.

Proof of this came to light last fall when the agency made arrangements for the repair of the old lighthouse at Pilot Bay on Kootenay Lake.

Situated about two hundred and fifty feet above the lake on a steep wooded hill, the lighthouse is reached only by a winding footpath.

Transportation of lumber and construction materials to the site presented a bit of a problem to the foreman. However, being experienced with that part of the country, he overcame the difficulties, best told in his own words:

"Dear Sir. While employed by your department as foreman to repair pilot bay light house, I had to employ A horse to yard the material half A mile up to the sight the horses name is honey this may seem like so much trivia but its the quickest way to explane the situation.

"Honey arrived on the job and in due course was hitched to A stone boat with a load of singles piled there on it but Honey wasnt having any of it Honey kick up his heels bit at his would be drivers then sat down, So I went and dug Honeys boss out whosename is Topsy she got out in front and said come on Honey up tht hill went Honey.

"That is how I come to have one old widow on the pay roll. I agreed to give Topsy and Honey one hours traveling time. As they have they have quite ahike to work I hope this meets with your approval. please dispatch check with utmost speed as Honey needs hay."

Paperwork Honor

W. S. Ryan, a member of the staff of the radio regulations division of the Telecommunications and Electronics Branch, has been granted a Canadian Government Paperwork Management award.

The award was announced by D. A. Charbonneau, co-ordinator of the program and chairman of the Ottawa chapter of the Administrative Management Society.

The certificate presented to Mr. Ryan cites him for "outstanding performance in promoting effective paperwork management in the Department of Transport."

Announcement of the award was made in a letter from Mr. Charbonneau to J. R. Baldwin, deputy minister of the department.

The actual award was presented at the annual meeting of the society, held in the Chateau Laurier Hotel in Ottawa.



Atlantic Ferry Memorial

Transport

ALBUM

des Transports



CCGS *J. E. Bernier* is an icebreaking lighthouse supply and buoy tender officially accepted for service at the Quebec Marine Agency on Nov. 29, 1967. In addition to her duties in home waters, the Bernier will be used in support of resupply operations in the Arctic.

LENGTH: 231 feet
BREADTH: 49 feet
DRAFT: 16 feet
POWER: Diesel, 4,250 horsepower
GROSS TONNAGE: 3,070 tons

Le n.g.c.c. *J. E. Bernier*, nouveau brise-glace baliseur, est attaché à l'Agence de la marine du ministère à Québec. Le navire, qui servira au ravitaillement des phares et à l'entretien des bouées, a été officiellement reçu des constructeurs le 29 novembre 1967.

LONGUEUR: 231 pieds
LARGEUR: 49 pieds
TIRANT D'EAU: 16 pieds
PUISSANCE: diesel, 4,250 cv
JAUGE BRUTE: 3,070 tonneaux