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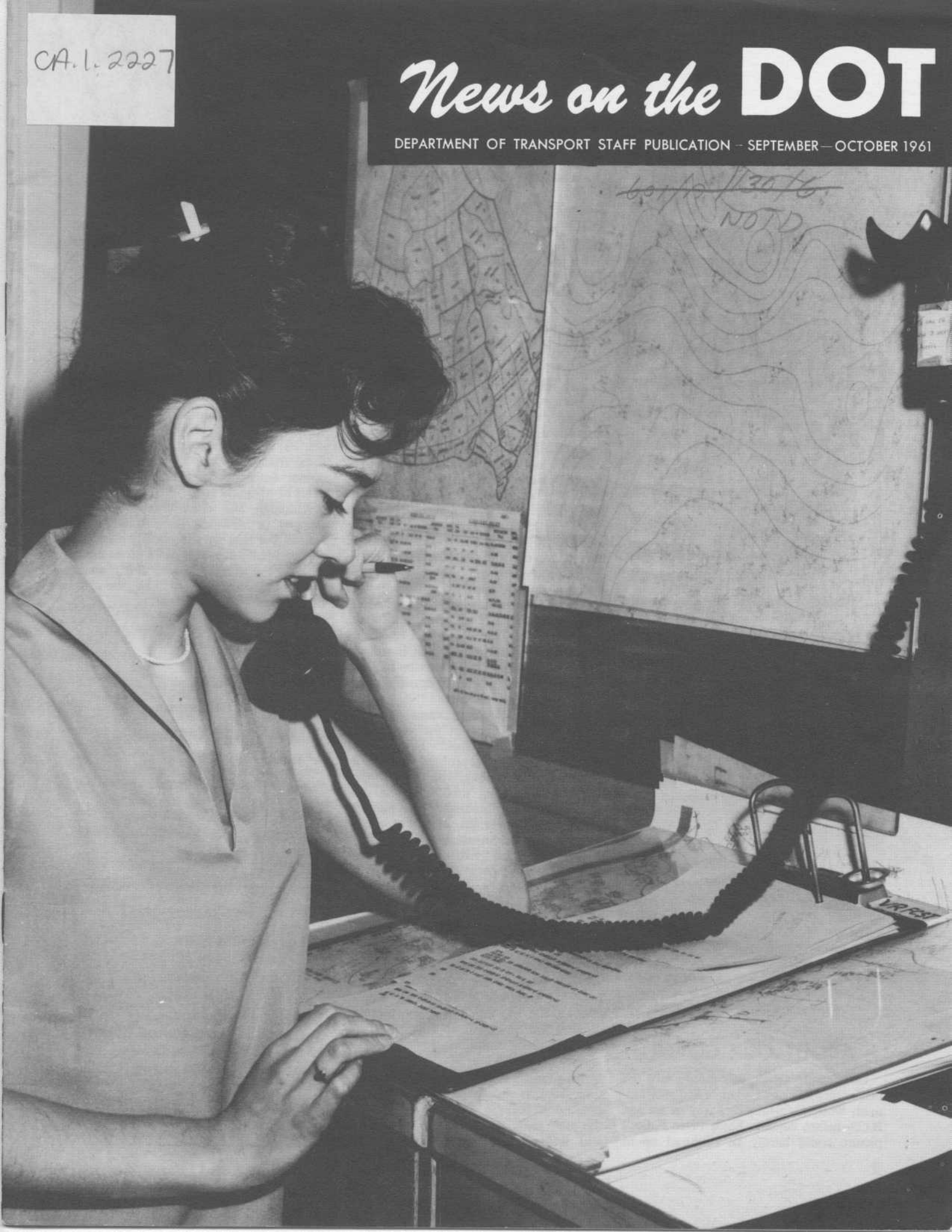
News on the DOT

DEPARTMENT OF TRANSPORT STAFF PUBLICATION – SEPTEMBER—OCTOBER 1961



EDITOR'S PAGE

ABOUT OUR COVER

Our feature article this month tells the fascinating story of Canada's first weatherman, who, unfortunately, was of an age B.C.—before camera. Since Peter Fidler's picture could hardly be conjured up to grace our cover, petite Pat Grossmith makes an eye-pleasing substitute. As one of a very rare species—a *weatherwoman*—she deserves front page coverage in her own right.

Born in Shanghai, China, Pat came to Canada—Vancouver, to be exact—as a child. Her early years paralleled those of most active girls, what with school, piano lessons (she retired from this, she says, in her dotage at 12 years of age) and ballet. Today her artistry is confined to "plucking desultorily on a guitar and bleating out the occasional folksong."

A keen interest—not to mention ability—in mathematics and physics led to the University of British Columbia and its Arts course. She graduated with honours in both in 1959 and then decided to enter the world of meteorology. For equipment to weather the job she donned an M. A. in meteorology from the University of Toronto in 1960 and from there it was only a hop and a skip to 315 Bloor Street West where she joined the staff of the Department of Transport's met branch.

After an initiation period at headquarters, Pat was posted to Edmonton in June, 1960 and has since been forecasting in the lee of the mighty Rockies.

Her biggest challenge came this past June when she filled in for vacationing Whitehorse meteorologist Herb Wahl. Says she, "Although it probably takes more like eight years to become an accomplished (that means getting used to being continually amazed) forecaster for mountainous terrain, the eight days I spent at Whitehorse were invaluable. I only hope the pleasant, friendly townspeople weren't thrown for a loop by my forecasting."

Of her chosen profession, this comely 24-year-old meteorologist says, "To me forecasting is both interesting and amusing. It's rather like trying to solve a diophantine equation—there are many possible solutions, but often the exact nature of the problem is somewhat obscure. And that's how it is when you set out to find what is causing the prevailing weather. Meteorologists are supposed to pick the most likely class of solution—sometimes I'm lucky."

She suggests that if her interpretation of forecasting seems somewhat oversimplified it could be because she has only been "on the job" for little more than a year. She still finds it a strain predicting future weather moods while being a little uncertain of her interpretation of prevailing conditions. Summing it all up beautifully, if not too simply, Pat says, "If one is endowed with a phlegmatic nature and an enormous sense of humor, it seems to me that the strain of forecasting would be reduced to a mere bagatelle."

There's only one drawback to being a weatherwoman. Watching the weather is a round-the-clock job—shift work and meteorology are blood brothers—and the graveyard shift plays havoc with a gal's social life. Pat hastens to point out, though, that some friends are not too loath to switch dinner dates of roast beef to breakfast dates of ham and eggs.

Although she doesn't see herself as unusual or different from other young women her age, we say playing chess and driving loaded logging trucks down mountainous roads near Hope, B.C., among other things, are unusual. The case of the Editor versus Pat Grossmith rests!

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News on the DOT

Staff magazine for the Department of Transport
Published under the authority of the Minister,
Hon. LEON BALCER, Q.C.
by the Information Services Division, Ottawa.
Editor: Yvonne McWilliam
Vol. XII No. 5
September-October 1961

OCT 3 1 1961

FROM THE MINISTER'S DESK

DU BUREAU DU MINISTRE

NEWSMEN say there are—like arguments—two sides to every story—the one that's written and the one that isn't. Recently the Department of Transport was responsible for two stories that were written. The first told of the CMS Camsell *rescuing a crew of nine from the shipwrecked Hudson Bay Company supply vessel* Fort Hearne *in the Western Arctic; and the other announced that late in August our meteorological branch and the United States Weather Bureau installed the world's first isotope-powered weather station at Norwegian Bay.*

The story which wasn't written was the department's ever-present concern with safety, whether in the traditional techniques of sea rescue or the newest, comforting techniques of electronic safety.

Our marine service, for example, never rests; in winter it clears ice from the St. Lawrence and other shipping waterways; in summer it carries supplies to eastern and western arctic stations.

Always ready to answer an S.O.S. from vessels in distress, our department does an even more important job. It heads off disasters before they occur by making aerial ice surveys to find out ice thickness, record iceberg dangers and plot the best routes for cargo vessels.

Our meteorologists, too, are part of this network of safety. Those stationed on CMS vessels report on ice and general weather conditions, while others man airport and other weather stations to line a pilot's course with up-to-the-minute forecasts on weather developments.

It is obvious that these services are essential to the general economy of this country.

Our primary concern is the safety and comfort of the travelling public. In this sense we both share the same job and the same responsibilities and, from the daily results that come across my desk, I know that you have done your work well. However, I do not wish to end so exhortingly.

Many of you have left your holidays behind; some of you—wiser than I for I have had mine—may be holding off until October, perhaps, for a hunting trip. In any event, I hope you enjoyed or will enjoy your 1961 vacation. I am satisfied each of you richly deserved those days.

S'IL faut en croire les journalistes, chaque nouvelle comporte, comme d'ailleurs toute discussion, ce qu'on dit et ce qu'on ne dit pas.

Dernièrement, le ministère des Transports a publié deux nouvelles. La première signalait le sauvetage par le n.m.c. CAMSELL *des neuf membres d'équipage du ravitailleur* FORT HEARNE *de la Compagnie de la Baie d'Hudson, qui avait fait naufrage dans l'ouest de l'Arctique. La seconde annonçait qu'en fin d'août, la Direction de la météorologie du ministère des Transports et le Weather Bureau des États-Unis avaient installé, sur la baie Norvégienne, la première station météorologique au monde qui soit à alimentation isotopique.*

Mais ce que l'on passait sous silence, c'était le souci constant du Ministère d'assurer la sécurité en récourant à tous les moyens possibles, depuis les méthodes traditionnelles de sauvetage en mer jusqu'aux récentes techniques électroniques offrant toute garantie de sécurité.

Notre service de la marine, par exemple, ne connait jamais de répit: en hiver, il s'occupe du déglaçage du Saint-Laurent et d'autres voies navigables; en été, il voit au ravitaillement des postes de l'est et de l'ouest de l'Arctique.

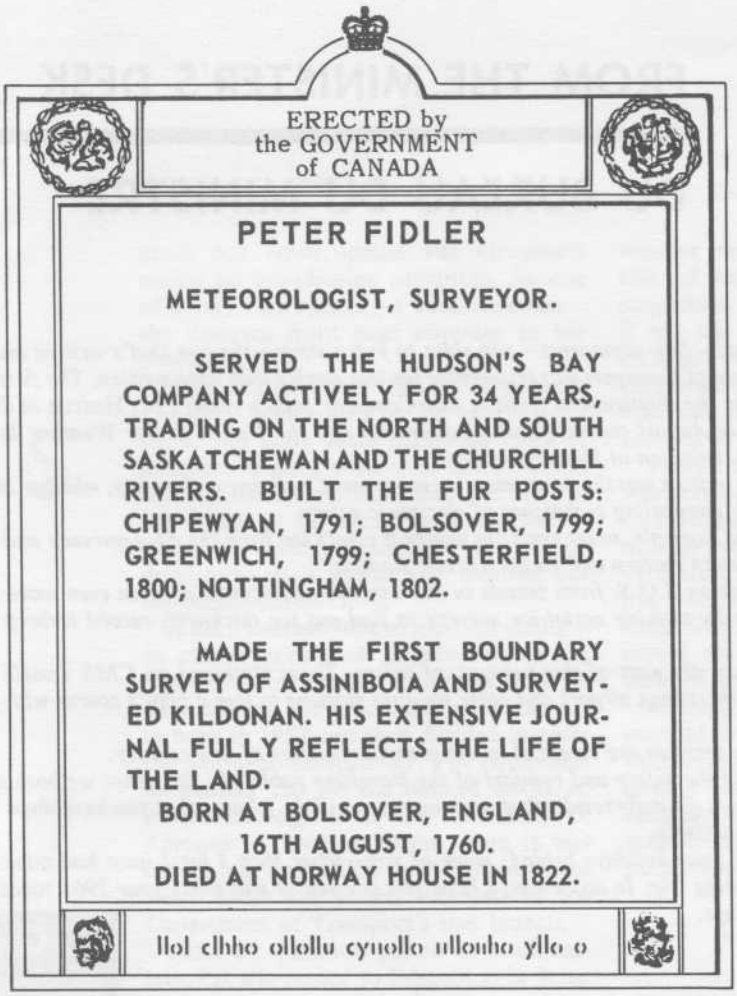
Toujours prêt à répondre aux S.O.S. des navires en détresse, le ministère des Transports fait œuvre plus utile encore: il prévient les désastres en effectuant des relevés aériens des glaces, grâce auxquels il peut connaître l'épaisseur des glaces, noter la présence d'icebergs et établir les routes les plus sûres pour les navires de charge.

Nos météorologistes font aussi partie de ce réseau de sécurité. A bord des navires du Service de la marine canadienne, ils font des rapports sur l'état des glaces et sur les conditions météorologiques en général; aux aéroports et autres stations météorologiques, ils s'emploient à renseigner les pilotes d'avions sur les dernières prévisions météorologiques applicables à leur route.

Il est bien évident que ces divers services sont indispensables à l'économie générale du pays.

Mais notre premier souci reste la sécurité et le confort du public voyageur. En ce sens, nous partageons tous, vous et moi, le même travail, les mêmes responsabilités et, à en juger par les résultats dont je prends tous les jours connaissance à mon bureau, je sais que vous accomplissez bien votre tâche. Je m'en voudrais cependant de terminer sur une note aussi sérieuse.

Plusieurs d'entre vous ont déjà pris leurs vacances; d'autres plus sages que moi,—j'ai déjà pris les miennes,—attendent peut-être le mois d'octobre afin de pouvoir aller à la chasse. Quoi qu'il en soit, j'espère que vous avez eu ou que vous aurez de bonnes vacances. Chacun d'entre vous a bien mérité ces jours de repos.



Canada's First Weatherman

by A. Burnett Lowe,
Meteorologist

IN the town of Meadow Lake in Northern Saskatchewan there stands a stone cairn to the memory of Peter Fidler. Peter Fidler lived close to 200 years ago and was an employee of the Hudson's Bay Company. During the years from 1788 to 1822, he made his way up the rivers and across the plains of Western Canada, trading for furs, drawing maps, and building forts. And so, in his memory, this stone cairn at Meadow Lake was erected, and the inscription on it is this:

PETER FIDLER

Meteorologist, Surveyor

I was most surprised when I read this inscription. The surveyor part was all right; I knew that Fidler had surveyed a great deal of land in Canada, including, for instance, the Red River lots of the Selkirk Settlers. But the meteorologist part was baffling. I thought that meteorology in Canada was a comparatively recent thing; but here was a man who lived in Western Canada over 150 years ago who, so the inscription said, was a meteorologist. If this was so, surely he must have been Canada's first weatherman.

To get to the bottom of this mystery I began searching through the old records of the Hudson's Bay Company and, sure enough, Peter Fidler had been a meteorologist. During the thirty odd years of his sojourn in Canada, he had been an ardent observer and recorder of the weather. As he moved about from one post to another, one of his first duties was to set up his meteorological equipment—his thermometer on the north side of the house where the sun could not get at it; his wind vane up on the roof; and his barometer in a sheltered room inside.

His records were kept faithfully, day after day, for some thirty years and recorded in a fine English hand in his ledger. Usually he read the instruments five times each day; the first reading was at daybreak and the last before going to bed at night; the others were equally spaced in between.

This regular reading of the instruments sometimes presented inconveniences but nothing was allowed to interfere. For instance, the entry for June 26, 1794, at York Factory reads: "House plundered by the Indians. Three men, one woman and two children murdered. Temperature 62. A smart breeze."

His records are full, too, of interesting comments about the changing seasons. He records the migration of the birds, the break-up of ice in the rivers and bays, the changing color of the leaves. Here, for instance, is how spring arrived at Cumberland House in the year 1798:

March 13—A flock of snowbirds seen—the harbingers of spring.
March 18—Large blue meat flies seen in numbers, being early in the season.
April 11—A swan first seen.
April 14—Saw the first goose.
April 23—Frogs began to croak.
May 12—Mosquitoes pretty plentiful, being rather early in the season.
May 17—Trees in bud.
May 18—Leaves came out.

During the cold winter of 1794–5 at York Factory, it occurred to Fidler that he should test the purity of the alcoholic beverages in his cellar; and so, in his register, intermingled with data about wind and temperature, the following information is imparted: "December 31—Holland gin freezes at 17 below." The weather turned colder and the entry for January 5 reads: "English brandy freezes solid at 25 below." The cold continued and grew more bitter so that on January 11 the entry is "Rum freezes at 31 below."

I discovered that there had been other weathermen in those days besides Peter Fidler. One was William Falconer, sloop master, who, during the years 1771 and 1772, took regular observations at Severn House on Hudson Bay. He, too, was very observant and carefully noted down the effect of the weather on the people and things around him. "Our people in the open marshes froze their faces for the first time. . . . . the beams of the house began to crack with the frost."

It was a severe winter on the shores of Hudson Bay and Falconer eagerly reported the signs of approaching spring:

March 28—On Monday last the first snowbird was seen and several more since—also an eagle today. They are the first birds of passage that make their appearance on this coast in the spring.
April 5—These five days past have been excessive warm and so clear that a speck has not been perceptible in the hemisphere.

But it was too good to last. During the second week of April he reports the air thick with snow occasionally mixed with "hearty showers of rain and sleet." On April 16 he says "The last two days we have had a constant strong gale of wind which has raised the snowdrifts much higher than they have hitherto been this winter." And even on May 3: "In the night was the most tempestuous gale of wind we have hitherto had this year attended with sharp frost and snow at intervals."

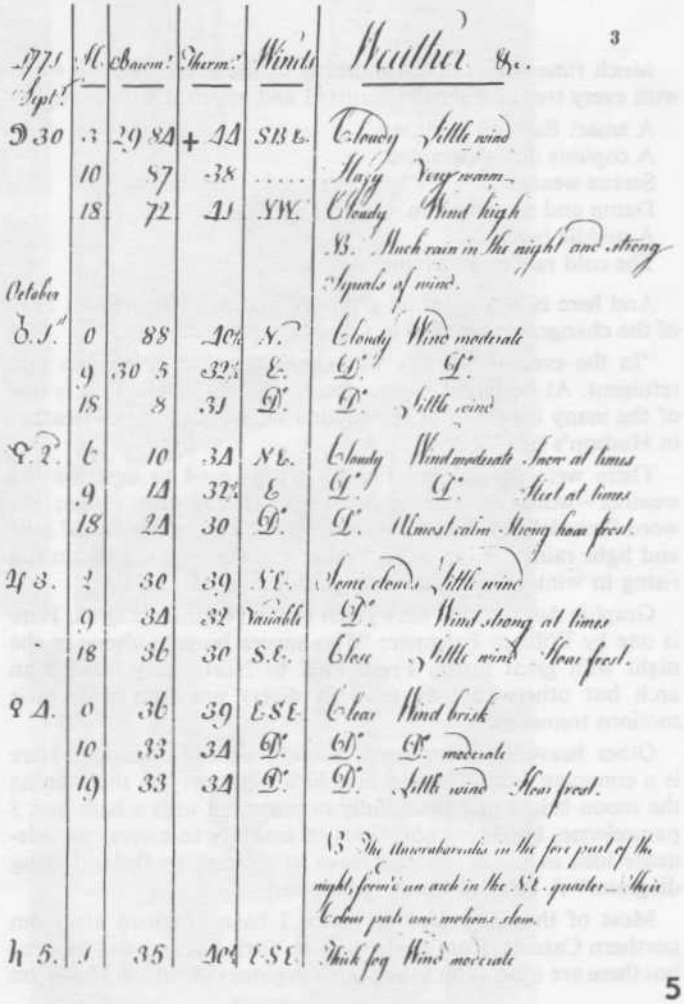
Some of the problems of observing the weather in the early days are noted in the record of Mr. Thomas Hutchins at York Factory in 1771. Mr. Hutchins had with great care brought over from the old Country a mercury barometer, installed it in a special room, and taken daily readings of the mercury level. Then, on October 2, the following comment appears in his record: "This day some Indian children accidentally cracked the tube of the barometer. I made two ligatures on it and did not perceive any air had gained admittance." On October 4, however, there is no entry in the barometer column and he makes the remark: "In the night the mercury all subsided into the cistern of the barometer, no doubt occasioned by the admission of air through the cracks."

So for the next day or two he sought ways and means of repairing his barometer. He finally wrapped up the injured part of the tube with bladder moistened in a solution of gum arabic and secured it with silk. For a time the barometer seemed as good as new but then on the 10th there is the entry—"At 21 hours the cistern of the barometer dropped off, the tenacity of the glue having been destroyed by the moisture of the air, an incident the natural consequence of so gross an inattention."

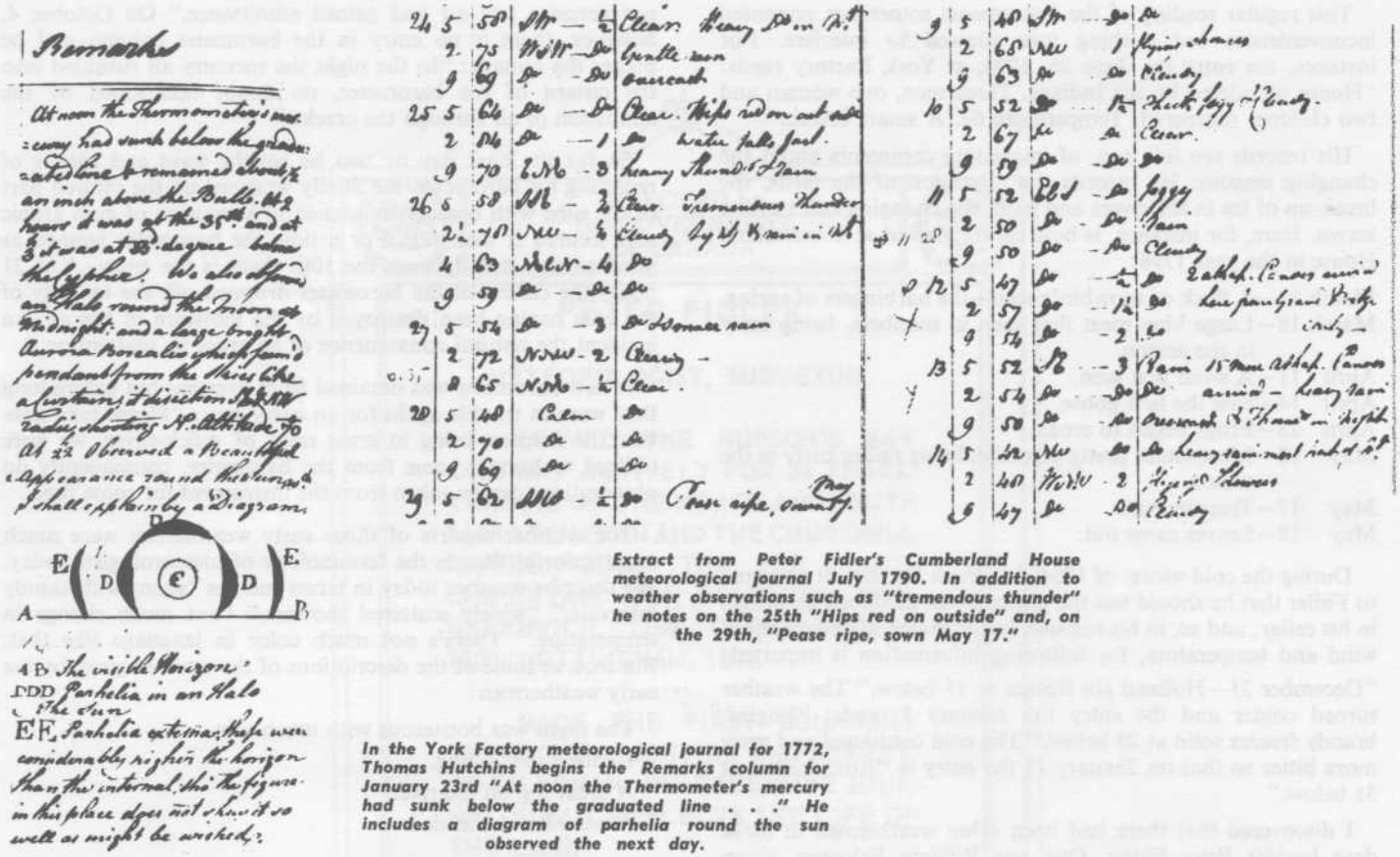
A new barometer was obtained from overseas but before long they were in trouble again for an entry says: "Please take note that the surgeon being in great need of quick-silver, we were obliged to borrow some from the barometer, consequently no observations can be taken from the instrument for some time.

The weather reports of those early weathermen were much more colorful than is the terminology of meteorologists today. We describe weather today in terms such as "sunny with cloudy intervals," "widely scattered showers," "not much change in temperature." There's not much color in language like that. But look at some of the descriptions of the weather given by the early weathermen:

The night was boisterous with much rain.
Gentle snow falling.
A great fog on the river.
A wet rime descended.



William Falconer's beautifully kept ledger for Severn House, 1771, shows a day of missing rain. Illustrations are from the H B C Archives.



In the York Factory meteorological journal for 1772, Thomas Hutchins begins the Remarks column for January 23rd "At noon the Thermometer's mercury had sunk below the graduated line . . ." He includes a diagram of parhelia round the sun observed the next day.

Extract from Peter Fidler's Cumberland House meteorological journal July 1790. In addition to weather observations such as "tremendous thunder" he notes on the 25th "Hips red on outside" and, on the 29th, "Pease ripe, sown May 17."

Much rime which in the morning exhibited a beautiful scene with every tree and shrub encrusted and adorned with spangles.

A smart flash of lightning.
A copious dew descended.
Serene weather.
Damp and disagreeable.
A middle breeze.
The cold raw and piercing.

And here is a description given by Thomas Hutchins in 1771 of the changeable weather in Canada:

"In the evening the sky was clear, the stars numerous and refulgent. At midnight it was cloudy and snow fell. This is one of the many instances of the sudden vicissitudes of the weather in Hudson's Bay."

There were several old English words used to describe the weather—words which are no longer in common usage; the word "mizzle" for instance, which meant a combination of mist and light rain and the word "roak," to describe the steam fog rising in winter from the open leads of the bay.

Graphic descriptions were given of the Northern Lights. Here is one by William Falconer: "The aurora borealis shone in the night with great lustre. From East to North they formed an arch but otherwise they were in divers positions with their motions tremulous."

Other heavenly phenomena received similar attention. Here is a comment from Thomas Hutchins' register: "In the evening the moon bright and beautifully ornamented with a halo and 3 paraselenae, but being conscious of inability to convey an adequate idea in words, we beg leave to attempt by the following diagram." A detailed drawing followed.

Most of the early records which I have obtained are from northern Canada, from posts such as York Factory and Severn; but there are others from the prairie regions—Brandon House on the Assiniboine, Chesterfield House and Buckingham House on the Saskatchewan.

In the reports from these posts during the autumn there is frequent mention of the visibility being reduced by "smoak". In autumn, when all vegetation was dry, alarming fires often broke out, spreading for miles across the unbroken plains and lasting sometimes for weeks together. Peter Fidler, as he describes the prairie sky, often speaks of "fire clouds" as the smoke billows from distant fires rolled across overhead. When he was stationed at Brandon House he makes note on one occasion that the entire Moosehead Hills were on fire.

I was much impressed with the care which these pioneer weathermen took to ensure good observations. Thomas Hutchins, in an introduction to his weather records at York Factory in 1772, gives a detailed description of the location of his observatory, mentioning its elevation, distance from the sea and surrounding woods. These remarks, he says, "May be of some utility in indicating any uncommon phenomena which may appear."

Hutchins goes on to describe his instruments. Of his thermometers, he makes the comment: "We have great reason to think them both very good as Mr. Wales, the astronomer, (who remarked the last transit of Venus at Churchill) was commissioned to send them."

The number scale which was used to indicate wind speed was quite new to me. It varied from 0 to 4, with 0 apparently intended for calm conditions and 4 representing a strong gale. Nowadays we measure winds in miles per hour; before that, the Beaufort scale was in common usage, but Admiral Beaufort devised his scale in 1808 and these observations were made long before that.

Finally, a clue was found in some remarks by Thomas Hutchins. "In judging the force of the wind," he says, "we have

endeavoured to follow the method proposed by Dr. Jacob Jurin in No. 379 of the Philosophical Transactions and lately made use of by a learned society at Edinburgh."

A letter to the Royal Society in London brought a copy of Dr. Jurin's paper, written in scholarly Latin. Speaking of his wind scale, Dr. Jurin says "Force 1 signifies the gentlest motion of the wind, scarcely agitating the leaves of the trees; 4 the truly maximum violence of the wind; the numbers 2 and 3 describing the intermediate forces between these, and the cipher denoting a perfect calm."

Most of us are inclined to think that the weather in the early days of our country was more severe than it is now. We read in history books of the hardships suffered by the early settlers due to the extremities of the weather—like that incident in the early days of the Selkirk Settlers when a buffalo hunting party was caught on the open plains by a sudden blizzard and thirty-three perished before shelter could be reached.

In order to find out just how cold and stormy it was in the early days, I calculated the average temperatures and precipitations for all the years of record I had gathered together. I found, first of all, that the weather varied considerably from year to year then, just as it does now. There were wet seasons, when the rivers were as high in autumn as they were in spring, and there were other years when drought was widespread. There were cold winters and mild winters. Here, in Manitoba, we talk about the very cold winter of 1950. The natives of this part of Canada a century and a half ago must have similarly talked about the year 1797 when, as Fidler said, "this has been the most backward spring and cold winter ever known by any person in these parts."

But as far as the average temperatures are concerned over a period of years, here are the results. For the three winter months —December, January and February—the mean temperature at York Factory a century and a half or more ago was 14.1 below. Our present day records for the same place give a mean temperature of 13.3 below—just about the same. At Cumberland House, near The Pas, the figures are: in the old days 3.5 below; at present 3.3 below—almost identical. As a further check, I figured out the average of the daily minimum temperatures for January, the coldest month, for York Factory. In the old days it was 24 below and the figure which we have today for York Factory is exactly the same 24 below.

So when Peter Fidler travelled this way nigh 200 years ago, he had just about exactly the same weather to put up with as we have today.

Top left: Members of the Rideau Canal staff were Johnny-on-the-job when prominent Ottawa Valley historian Harry Walker (seated, right) and Dr. Lucien Brault (seated, left), a well known recorder of the Capital's history, went out with a CBC crew to make a film of historic points along the canal between Beckett's Landing and Merrickville. On the fore deck of CMS "Long Sault" is deckhand Denzil Plummer, and aft is engineer Egan. The boat is emerging from Nicholson's Lock No. 19.

Top right: Capt. Alphee Payer, of CMS "Long Sault", is seen at the wheel of his sturdy vessel while taking a CBC movie crew along the history-steeped Rideau River.

Right: Cook John Tyo gives the crew a look at the good things to come, during a luncheon lull in the CBC filming of "Valley of Yesteryear" along the Rideau. With the cook are, from left, deckhands Bruce Ogilvie, Denzil Plummer and Wilf Perrin. The Rideau scenes will probably be in the fourth of a weekly TV series that was to commence Thursday, Oct. 5, at 7.45 p.m.

Cruising Along

NEVER before have so many Canadians taken to the water. With an estimated 1,000,000 small craft of all shapes and sizes plying the nation's waterways, pleasure cruising is rapidly becoming the most popular outdoor activity in the country. Since the entire family—from baby "Junior" right up to grandfather—can enjoy it's pleasures, millions of dollars are invested annually in boats and accessories.

All provinces have waters suitable for small boat navigation, so "where to use a boat" should not be a problem. Those with homes or cottages on the sea, a lake or a river have the answer at their front doors, while others need only buy a trailer and take their boat to some desirable spot for launching.

In Ontario, the "weekend sailor" has two excellent choices for canalling—the 123.5 mile Rideau Canal, connecting Kingston and Ottawa, or the much longer Trent-Severn Canal, linking Lake Ontario to Georgian Bay. Both of these, operated today by the canals division of the Department of Transport, carved their existence out of Canada's history.

There isn't anything quite like the Trent-Severn system anywhere else. It's a canal that really isn't a canal since only 33 of its 240 miles consist of man-made channels. It is fed by no less than 7,200 square miles of water shed, encompassing 147 feeder lakes and 42 reservoir dams, all tied together into a network so complicated and ingenious that the twist of a handle at one place may cause the water to drop in a lonely spot scores of miles distant.

The 240-mile waterway follows the historic Iroquois trail, the pathway used by the Iroquois in their deadly descents on the Huron tribesmen. This same route was followed by Samuel de Champlain when he discovered Lake Ontario in 1618.

The canal began in a small way in 1833 with the construction of a few locks on the Trent and Otonabee Rivers and on the Kawartha Lakes to connect pioneer settlements. These early locks and dams, along with some log slides, contributed to the flourishing lumber trade of the area.

Between 1869 and 1874 locks were built at Rosedale and Young's Point to join Cameron Lake with Balsam Lake and Stony and Katchiwano Lakes. Completing the connection of all the Kawartha Lakes, more locks were constructed from 1882 to 1887 at Burleigh Falls, Lovesick, Buckhorn and Fenelon Falls.

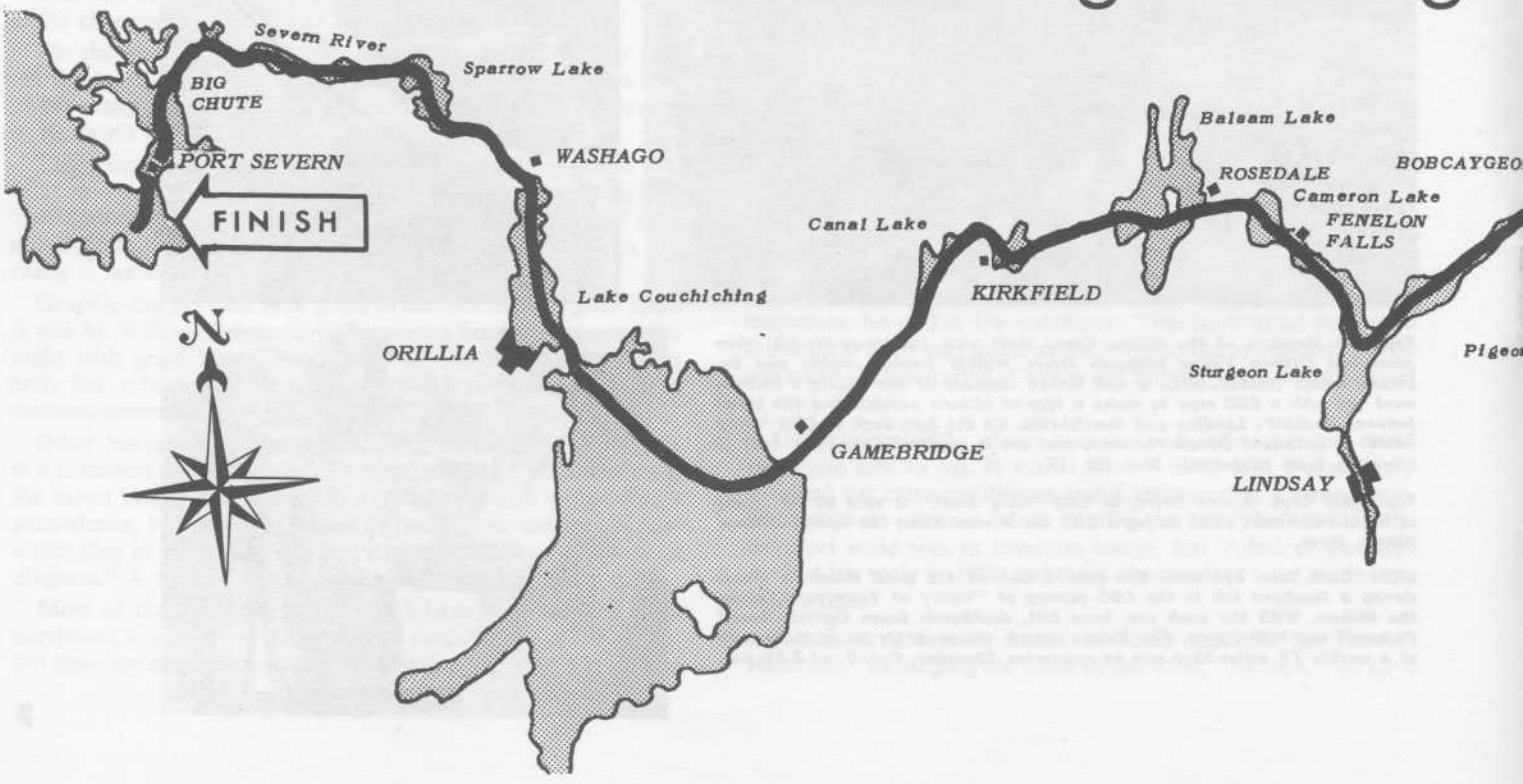
A construction program stretching from 1895 to 1918 saw the Peterborough-Lakefield and Balsam-Simcoe section built for six-foot draught and the remaining parts of the system built to their present capacity.

Throughout these years the canal's commerce plied through locks and barged through lakes. However, all the while more roads and better roads were being built and more trucks and better trucks were using them, until the canal was caught in the gripping vise of cold economics. With the steady erosion in its freight-carrying traffic it gradually began to assume the role of a boater's playground. The evidence? In 1960, 2,422 boats were locked through at Kirkfield compared to a meager 198 in 1950. A more than 1,200 per cent increase in 10 years!

The canal route follows the winding Trent River west of Trenton 57 miles and is jacked up through 18 locks. After a 12-mile run down Rice Lake, it swings up the Otonabee River to Peterborough, where the highest hydraulic lift lock in the world is located. Called the Kohinoor Lock, this steel monster has a lift of 65 feet and is quite different from the locks usually encountered. Operating since 1907, it is the "only all-steel and completely hydraulic lift lock on earth".

How does it work? Two open-topped tanks, each weighing 2,100 tons and measuring 140 by 33 feet, are balanced on huge plungers working in deep press wells. A boat enters through double gates, one closing off the reach above or below the lock, the other on the lock itself. An upbound boat enters the tank on the left side of the lock. To raise it, the tank on the right is given greater depth, and hence greater weight, of water. When all is ready, a valve is opened and water flows from one press well to the other, forcing the lower tank to rise on its plunger. The 65-foot lift takes about seven minutes.

Two men who helped in the construction of this lock — 82-year-old Cornelius McDonald and former lockmaster Bert Trigh, 71,—live in retirement just a stone's throw from their life's labor. Looking on from the sidelines now, they are able to observe the happy times so many holidayers derive from using the Trent-Severn.



From Peterborough, the system continues up the Otonabee, with Lock 26 just below Lakefield and the entrance to the beautiful Kawartha Lakes—Katchiwano, Clear, Stony, Lovesick, Deer Bay, Buckhorn, Chemong, Pigeon, Cameron and Balsam. The latter lake is the summit—841 feet above mean sea level, 598 feet above Lake Ontario, 20 feet above Georgian Bay and 35 locks and 158 miles from Trenton.

These lakes, among the loveliest to be found anywhere, were called "Kawartha"—meaning "bright waters and happy lands"—by the Indians. The Loyalist settlers added their distinctive touch to the area by leaving behind such flavorful place names as Spook Island, Dinnertime Island, Black Duck Bay and Plum Pudding Rock. And, too, we mustn't forget that fascinating Indian name, Polly Cow Island.

From here on the channel markers are reversed; boats now proceed downstream and the red buoys are passed on the port, not the starboard side.

Near the ruins of a fur-trading fort located on the western side of Balsam Lake, a canal leads to Mitchell Lake. Another three-mile cut leads to the Kirkfield lift lock (a lift of 49 feet) and beyond that is Canal Lake. The route then follows the Talbot River for nine miles to a three-mile artificial channel, which brings vessels to Lake Simcoe, a few miles north of Beaverton. The waters of Lake Simcoe, and even of its northern extension the smaller Lake Couchiching, should be sailed with caution. They aren't treacherous, but their waves can play havoc with small craft during a storm. A two-mile canal leads to the Severn River through Lock 42. Ahead lies Sparrow Lake and more than 20 miles of rugged scenery through the deep rock gorges of the Severn, two marine railways, the chasm at Little Chute, the beauties of Gloucester Pool and Little Lake, and finally, Lock 43 at Port Severn and the waters of Georgian Bay beyond.

The unique marine railways at Swift Rapids and Big Chute present an interesting contrast to the system's 43 locks. The only ones in the world, they have to be seen to be believed. What looks like a railway flat car with high sides comes down an inclined track into the water. If the boats are small two go on abreast, the car is hauled up a bit, the boats rest on the floorboards, and more come aboard in a second rank. A third tank may be accommodated if there's room.

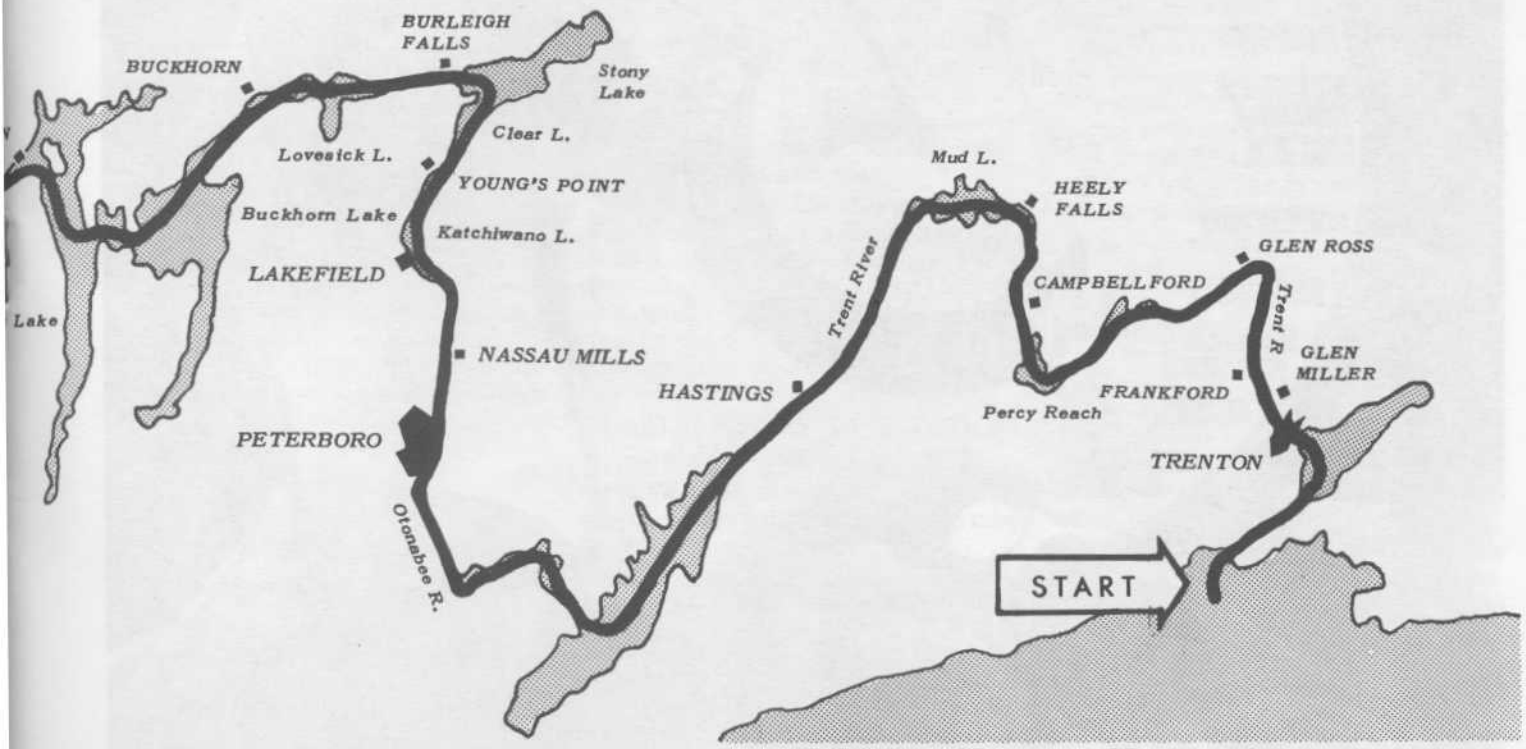
Larger craft, up to 60 feet in length, 13.5 feet beam and drawing not more than four feet, can be carried over the 47-foot drop at Swift Rapids or the 58-foot drop at Big Chute. The cars are hauled by a cable worked from a control room at the highest point. These railways have been operating for more than 40 years and are as much of a tourist attraction as the waterway itself.

On weekends all sizes and shapes of pleasure craft dot the waterway. Some come from Trenton, some are upbound from Port Severn and many come from the Southern States, making their way up the Altantic coast to the Hudson River, to the Erie Canal, Lake Ontario, through the Trent-Severn waterway, and on to Georgian Bay, Lake Huron, Lake Michigan, the Kennedy Canal, the Mississippi River, the Gulf of Mexico and home.

Don Smith, lockmaster at Kirkfield Lock, tells about one 22-foot cabin cruiser that last year pushed its way across the Atlantic from Sweden, powered only by two 35 h.p. outboard motors. Mr. Smith was told by the owner that on the ocean voyage the cruiser accompanied a freighter from which it received fuel and supplies. During two stormy occasions it had to be picked up by the freighter's davits until the bad weather subsided.

But whatever port these boats call "home", they know that in the unique Trent-Severn they have found the ideal waterway for cruising. There are enough gasoline pumps and grocery stores along the route to keep them mobile and fed, and marinas are being built in many places to offer even better accommodation. Channels are well buoyed and beacons, white and diamond shaped, indicate where to steer if there's a doubt. If you should plan to join the happy throng of inland sailors on your next holiday, take the experts' advice. Don't attempt long runs—take time to enjoy the fishing, swimming, sunbathing, exploring and just plain relaxing. Safe sailing, and pleasant ports of call!

the Trent - Severn



A "Timely" Piece

A giant time piece, truly a grandfather among clocks – it measures more than six feet in diameter and weighs 350 pounds – is attracting a great deal of attention from the travelling public at Montreal International Airport (Dorval). At a glance it tells the time in more than two score of the world's population centres including Bangkok, Buenos Aires, Anchorage, and Shanghai.

Built by the Tele Nova Company of Frankfurt, West Germany, the clock is the only one of its kind on the North American continent. Five others are installed around the world at Frankfurt and Hanover in Germany; London, England; Caracas, Venezuela; and Quito, Bagota.

It is marked off on the 24 hour system; i.e. 24 hours can either be midnight today or tomorrow.

On the outer perimeter the 42 cities are indicated in bronze letters on brown background plates, each with a gold pointer to the inner inclined dial. Montreal, located at the top, is distinguished by its red background.

The dial, which turns counter clockwise, is numbered 1 to 24 hours. The hours 6 to 18 are white numerals on gold circles against a silver background (to indicate daytime), while the hours 18 to 6 are blue on gold against a blue background (to indicate night time). The inner flat dial of white with bronze numerals is marked off from 1 to 60 minutes and is centered by a hand that rotates clockwise.

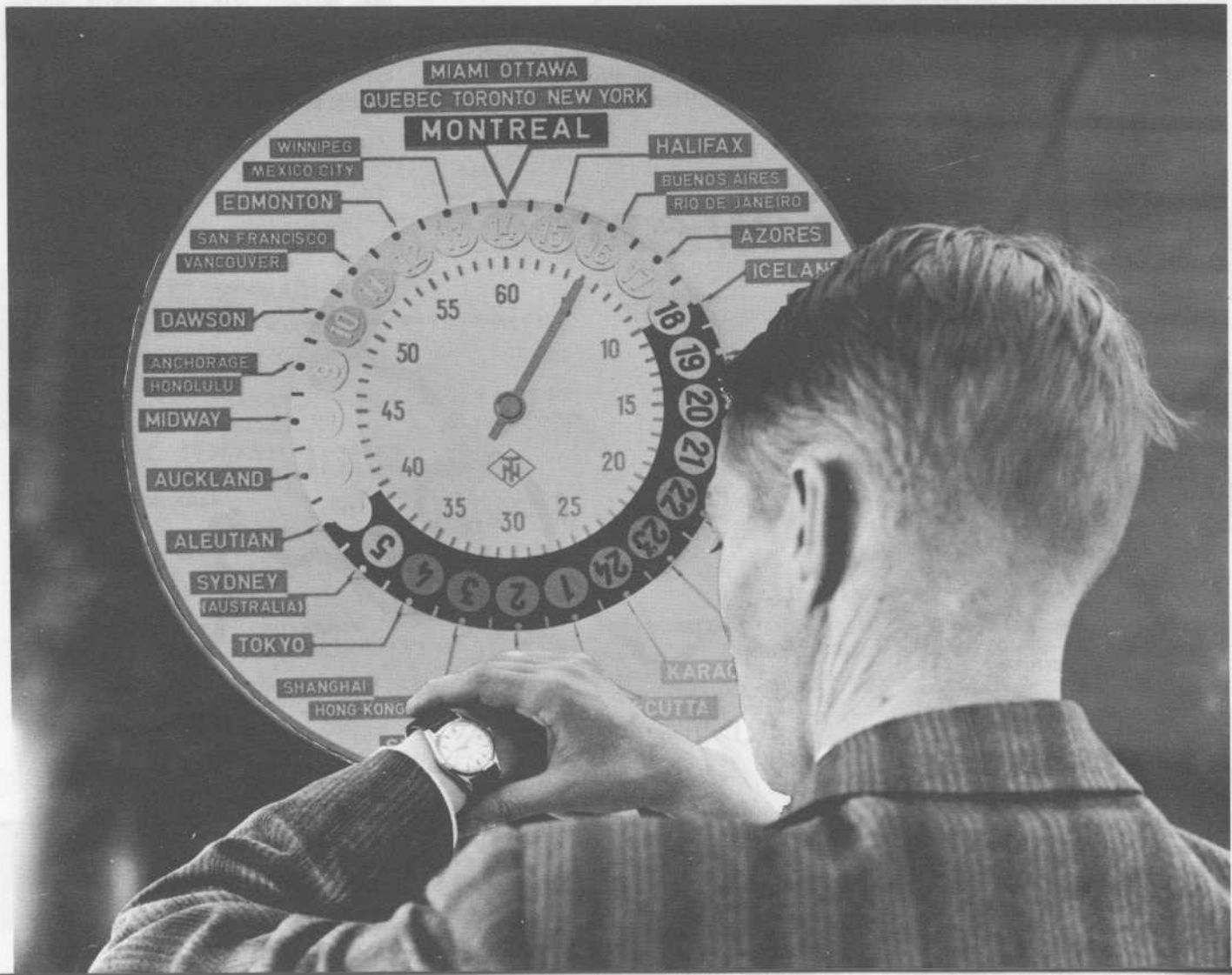
Now, how to tell the time!

The first thing to remember is that the clock shows Standard Time. Since it is natural to look at Montreal first, we see that (in the photo) opposite the pointer on the "Montreal" plate it reads 14 hours in the silver section and the hand indicates five minutes. Therefore, Montreal time is 14 hours and five minutes in the daytime – or 2:05 p.m. In Tokyo, the dial indicates four hours on the blue half, while the hand remains at five, so the time there, at that moment, is 4:05 a.m. Simple, isn't it?

Mechanism to operate the clock is located in a separate room and consists of a pendulum-type master clock, operated by batteries. It is kept fully charged at all times and is able to operate without power from the supply mains for several weeks.

Every time the master clock sends an electrical impulse to the "world clock", it moves the hand and the dial one sixtieth of an hour.

"We admit it is a bit complicated to read," says one airport official, "but it attracts a lot of attention and keeps many travellers occupied 'til plane time."



Success is many things, including . . .

PRIZE WINNING SUGGESTIONS

"The most important single attribute for success," said one Nobel prize winner, "is enthusiasm."

The following D.O.T.'ers, who put enthusiasm to work and came up with useful suggestions, prove this to be true because they, too, are prize winners:

MANUAL AMENDMENT

An award-in-kind was won by FRANCIS H. COLE, telecommunications, Ottawa, for recommending that a local transmitter be shut down when not in use.

As a result of this suggestion an amendment was made to the Operations Manual to the effect that "whenever it is known that a circuit will not be used for an extended period, the transmitter associated with it should be switched off during idle periods."

SAFETY CONSCIOUS

IVOR H. TARR, a met communicator stationed at Goose Bay, Labrador, noticed that the light switch of the community freezer was located right outside the door, where anyone could switch it off when leaving the room.

Mr. Tarr pointed out that since this is a large freezer room used by several hundred families, it would be possible not to know that someone was still inside when turning the lights out. Left in the dark at such extreme temperatures, a person might panic. To avoid such an occurrence, Mr. Tarr recommended that the switch be located in the Store Clerk's office, where it could be turned off at night after the freezer had been checked. This was done and the suggestor received a set of copper pictures as his award.

MODIFICATION OF RECEIVER

Radio technician GORDON WINTERMEYER, Ottawa, is $30 richer thanks to his "on the job" alertness.

When tested, his suggested modification to the Bendix MN-85 receiver for calibrating aircraft, proved to be better than the method previously in use. All such departmental equipment was modified accordingly and he received his award.

FORM REVISION

RONALD B. GILLIS, a clerk in the meteorological service, Toronto, felt that an economy in time and paper would result through standardization and redesign of two forms in current use.

After careful review it was decided that both tangible and intangible benefits will be realized and the suggestion was effected.

Mr. Gillis received a $50 cheque as his award.

WINS POST OFFICE AWARD

A D.O.T. employee who saw a need won an award from the Post Office Department for his public-minded alertness.

R. G. STARK, an Edmonton meteorologist, suggested that a mailbox, located in the neighbourhood in which he resides, be moved from one corner to the opposite corner since, in its original location, persons mailing letters were required to walk on the road. Mr. Stark felt this might be dangerous for small children or older people, particularly during winter.

By submitting his suggestion to the Suggestion Award Board of the Public Service of Canada it resulted in an award-in-kind being made by the Post Office Department.

A DOUBLE HEADER

RUSSELL R. TRAVERS, a radio technician at Lethbridge, was well-equipped for his summer vacation thanks to his ingenuity. His holiday gear was packed in a brand new travel case and an extra hundred dollars was tucked into his billfold as a result of two of his suggestions being approved by the committee.

The $100 suggestion was a proposed solution to eliminate undesirable chattering of the gonimeter relay. Complicated as it may sound to the layman, Mr. Travers' recommendation that the relay be connected to terminal 50 V.V. of the local switching unit to provide a different source of 115 V.A.C. solved the problem. Since this was not part of his regular duties, considerable engineer man hours were saved.

The second suggestion that paid off with a travel case dealt with a discrepancy in the internal wiring of the Mechron V.O.R. diesel changeover panel. After thorough investigation instructions were issued to check the hook-up and modify where necessary the 16 units in use across Canada.

PLASTIC SPRAY PROTECTION

GORDON O. ARNOLD, a radio operator in Vancouver Region, recently received a second cash award for a suggestion made in 1958.

His original idea, that lead acid storage batteries be sprayed with acylic (clear plastic spray) to moisture proof them, was accepted and put into effect in air services. At that time he received a $25 award.

Recently it was found that Mr. Arnold's idea had application in marine services, as well and he was granted the supplementary $25 award.

"COURTESY" IDEA

A stenographer in the telecommunications branch at Winnipeg, MISS EVELYN EDWARDS, suggested that incoming telephone calls be greeted with "Transport Department" rather than "Air Services". She felt that the latter, generally used greeting, might be confusing to the public.

Since the practice of answering department switchboards varied greatly throughout the country, this suggestion resulted in a circular letter being issued to all regional air services branches instructing them to use the standard greeting—"Transport Department". Miss Edwards received a $25 cash award.

BETTER PUBLIC SERVICE

A new form for recording information for a duplex radio-telephone call is the result of a suggestion made by STUART EWING, radio operator at Iroquois (formerly at Sarnia).

Since better service is rendered to the public by using this form, the Marine Manual of Operations was amended accordingly and Mr. Ewing received a leather briefcase as an award.

CHOOSES CAMERA

W. P. WEATHERALL recommended that a specially-designed enclosure envelope be used for filing plans and blueprints to protect them from loss and damage. This type of envelope — $8\frac{5}{8}'' \times 14''$ — was obtained and is now in general use—as is the camera he won as an award.

Mr. Weatherall is a technical officer on the airport development staff at Ottawa.

IMPROVED AIR-SEA RESCUE

A radio operator at Prince Rupert, H. A. HOOPER suggested a revision to Form AR-5-14 ("Assistance Rendered to Vessels In Distress") to permit better reporting of incidents involving small craft along the Canadian coasts.

The suggestion was put into effect early in June and Mr. Hooper received an award-in-kind in recognition of his interest in improving air-sea rescue operations.

WE GET LETTERS . . .

Unwanted Ones

Sheila McCaffrey and Que Lim, both of marine operations, sing their own version of the popular "Heartaches by the Dozens", as they wade through a seemingly never-ending flow of requests for arctic cancellations. Their words? "Letters by the Carload".

STAMP collectors—philatelists to the initiated—are a determined lot. Their latest cry—unlike Henry George's, "go west young man"—is "go north with D.O.T." A sudden upsurge in the desire to collect arctic postal station cancellations has resulted in carloads of unwanted letters being dropped into already stuffed D.O.T. "in" baskets.

Although this isn't a new fad—small numbers of these requests have dribbled in in the past and were carried by northbound Canadian Marine Service vessels—this year the situation got out of hand. Beginning early in February thousands of letters, addressed in a variety of ways, found their way to the office of Captain E. S. Brand, director of marine operations. Large, small, fat or thin—whatever their shape or size, it wasn't necessary to open and read each one to know what they contained. Collectors around the world had been alerted by philatelic journals about Canada's unique arctic postal stations and all wanted one or a dozen-and-one cancelled covers for their collections.

Dealers, too, thought they would take advantage of the "service". Some sent detailed instructions to ships' captains asking that a series of as many as 32 envelopes be mailed on successive days from different spots along the route—starting in Montreal and northward to Padloping Bay, Alert and Eureka. They even went as far as to microscopically instruct the captains to "use the handstamp containing the ship's name and date to apply a clear, but dark, impression in the left hand corner and autograph the envelope". As well, they suggested that if no postal service existed at a certain place, the envelope be stamped on the day the ship was there and held for mailing at the next post office. To carry out such requests would require the full-time services of a postal clerk aboard each CMS vessel.

Transport officials, after consulting with the Post Office, decided that all such mail be opened, stamped to show receipt, and turned over to the Post Office Department's philatelic section. There it was to be recorded and returned to the sender with a letter explaining that when a vessel docks in an arctic post her officers are too busy to become part-time postmen.

Although it would be impossible to read every one of these letters, a spot check on one particular batch turned up some interesting "case histories".

An Austrian collector, realizing that his requests would mean extra work for many people, included complete sets of his country's stamps in case his "mailmen" were collectors themselves. A discouraged philatelist from Smiths Grove, Kentucky, said he had been trying for four years to obtain an arctic postmark. This year he tried the personal approach. He addressed his letter to the purser of a particular vessel, imploring that the envelope be returned with an arctic cancellation. He got it back all right—but with an Ottawa postmark!

One New York City collector might be well-advised to hang on to the Canadian stamps he used on the inside, self-addressed envelopes. They represented more than 50 years of Canadian issues—including ones from the reigns of Queen Victoria, George V and VI and others of 1930 vintage showing the then-young princesses. Apparently he didn't think it odd that a 50-year-old stamp would bear a 1961 cancellation, but his friends might get a strange idea of Canadian postal service!

Some requests were written in German and Dutch, so what they wanted could only be guessed at, while yet others included coins in lieu of Canadian stamps.

Scores of the same letters from members of an American society of polar philatelists followed what must have been a suggested form letter—each closed off cheerily wishing the captain well on his arctic voyage (presumably, in spite of his mailing chores!).

Best of all, though, were those that contained commemorative covers issued by an enterprising dealer in anticipation of the CMS *John A. Macdonald's* maiden voyage. Attractively printed in blue on white, they bore a 1961 date. The only hitch was the "John A." left last year—one clear case of a denial of the adage "better late than never".

By refusing all requests it is hoped that stamp journals will discontinue publishing details of the names and sailing dates of CMS vessels and that the department will cease to be showered with this mail.

A postal official recalls a similar situation of a few years ago when these magazines pointed out that the longest post mark available on the North American continent was "East Side of Ragged Island, Nova Scotia". The postmaster, who was literally swamped with requests for cancelled covers, was protected by the ruling that employees are prohibited from complying with such requests. As refusals went out by the hundreds, requests became less frequent, and today they number only one or two a month.

"Oh, that D.O.T. should be so lucky!"

Retire after Long Service





Five departmental employees—three from Moncton region and two from Ottawa—have recently retired with a combined service record of 205 years in the telecommunications field.

To mark their respective retirements, associates honored each of them at special ceremonies.

H. H. McLean

Retiring after 35 years of service was Harold H. McLean, radio technical officer in charge of maintenance of aeradio and marine services at Moncton.

Mr. McLean was born at Grindstone, Magdalen Islands, and obtained his certificate of proficiency in radio telegraphy at Halifax in 1919. He served in fishing trawlers with the Canadian Marconi Co., joining the Department of Marine and Fisheries in 1926.

In 1930 he was promoted to radio technician and served for many years in the former East Coast marine radio district office. In 1956 he was transferred to Moncton when the air and marine radio services were amalgamated.

Peter Bishop

A native of Wesleyville, Newfoundland, Peter Bishop became a telegraph operator with the former Newfoundland Department of Posts and Telegraphs in 1912. The following year he joined the Canadian Marconi Co. as a wireless operator.

During World War I he served as a warrant telegraphist with the Navy, joining the Department of Marine and Fisheries in 1918. He served at various direction finding and coast stations until 1939 when he was appointed officer-in-charge at Moncton aeradio station. In 1958 he was appointed assistant operations supervisor at Moncton regional office. At the time of his retirement he had completed 46 years of government service in the communications field.

Mr. Bishop was honored with the Queen's Medal during the 1953 Coronation Year.

C. R. Spracklin

Born in Brigus, Newfoundland, "Sprack" Sprackling entered the radio field in 1911 as an operator with Canadian Marconi at the old Cape Ray Station. He served in various positions until 1915 and then joined the RCN Volunteer Reserve, to which all marine and fisheries communications personnel were attached during World War I.

In 1919 he joined the government service and spent the following years at direction finding stations at Barrington, Cape Race, Red Head, Chebucto Head, the Halifax office and Camperdown. Transferred from Camperdown in 1949 after 14 years there, he went to Hartlen Point monitoring station, where he remained until his retirement.

William Elliott Connelly

William Connelly, superintendent of common carrier and landlines in the telecommunications branch, retired on August 11.

Mr. Connelly was born at North Bay, Ontario, and received his education at Shawville, Que. He spent the first World War in the naval service and joined the Department (then called Marine and Fisheries) in 1919.

During the latter part of his service, Mr. Connelly had been active in the nationalization of the commonwealth telecommunications system, the forming of the Canadian Overseas Telecommunication Corporation and the work of the International Telecommunications Union. He headed Canadian delegations to several international telecommunications conferences abroad.

Of major significance is his contribution to the planning for the round-the-world telephone cable system now being established by commonwealth countries.

He received an MBE in 1946 in recognition of his active participation in the development and operation of a training program for staff engaged in wartime detection work.

Harold Edgar Walsh

Harold Edgar Walsh, chief of the design and construction division of telecommunications branch, retired on August 28.

Mr. Walsh was born at Bearbrook, Ont., near Ottawa, and obtained his B.A. and B.Sc. (Electrical) at the University of British Columbia in 1916 and 1925 respectively.

He served Canada during the First Great War, first in the Army and later in the Navy on the North Atlantic and joined the department as a junior engineer in 1925.

He was honored with an MBE in 1946 in recognition of his direction of the establishment of aviation navigation radio aids during the war to serve the requirements of home defence and Commonwealth training. He was also awarded the Coronation Medal in 1953.

DOT's On The Map

Scattered from coast to coast across our vast country, D.O.T. employees are active people—both on the job and off. The following are examples of some departmental activities of general interest

NAMED EMERGENCY MEASURES CO-ORDINATOR

OTTAWA—Douglas D. G. Keddie, 52, has been appointed D.O.T's Emergency Measures Co-Ordinator.

A native of Ottawa, Mr. Keddie joined the RAF in 1932 after graduating from Royal Military College, Kingston. From then until 1956 he established a distinguished military career. During World War II he served in France and England, then became chief of flying, under the Commonwealth Air Training Plan, in the RAF school at Charlottetown, P.E.I.

Following the war he was the first RAF officer to be exchanged for staff duties with the U.S. Navy. Later he was sent to Paris on the staff of the Supreme Allied Commander, Europe, as chief British intelligence officer. Other positions he held included chief operational planner, Nato area of Eastern Atlantic Command and Channel Command, London, and RAF director at the Naval War College, Greenwich.

In 1957 he retired prematurely from the RAF to join the staff of General Worthington at Civil Defence Headquarters, Ottawa. When this project was turned over to the Canadian Army Mr. Keddie became chief instructor and served in command of the Civil Defence College at Arnprior, the position he held at the time of his present appointment.

ELECTRONIC WEATHER PREDICTIONS

MONTREAL—Automation has found yet another field in which to be of value. A million dollar computer is being installed at the Central Analysis Office at Montreal International Airport (Dorval) to assist in weather forecasting.

This will mark the first attempt to use a computer for weather predicting in Canada and one of the first in the world. The department's model, 75 times faster than the IBM 650 at McGill University, can do 100,000 additions per second. There is a faster one in use for weather forecasting in Washington and a slower one in Japan.

Meteorological equations and data fed into the machine will be of a nature which the weatherman ordinarily has no time to calculate. The physics of the atmosphere have been known to man for years, but the complications are so great it would take hundreds of man hours to equate the basic data.

While the new computer will improve present methods, it will not put men out of work—rather, it will free highly skilled meteorologists for more advanced work. In addition to meteorological computations, it may also be used for research in radiation and energy studies.

SEA-GOING WEATHER OBSERVERS RECEIVE AWARDS

TORONTO—Thirty-nine awards were made in July to the masters and officers of some 20 ships trading into Canada. These men were honored for the valuable service they rendered to the department's meteorological branch by relaying reports of weather conditions during their voyages on the high seas, in coastal waters, and on the Great Lakes.

In all, 85 ships recorded the pressure, temperature, humidity, clouds, visibility, state of the sea, and other aspects of the weather four times a day. In 1960 these ships made approximately 13,000 reports for the benefit of Canada and any other country receiving them. Some ships, sailing from east and west coast ports, travel to the Far East, Australia, South Africa and the United Kingdom. About 25 send reports from eastern coastal waters and the Canadian Arctic, while several others send them from the Great Lakes.

P. D. McTaggart-Cowan, director of the met branch, pointed out when announcing the awards that ships' officers, by tradition, perform weather observing duties on a voluntary basis. However, they receive assistance from the branch in the form of weather bulletins, forecasts and maps by radio. Such weather advice is of vital importance in the safe passage of a ship through dangerous, stormy seas.

This year's awards—inscribed books—are the 30th of an annual series. Winners were selected on the basis of the number and accuracy of weather reports submitted by each. As in past years, a special award was made to the ship showing the greatest improvement over the previous year in the quantity and quality of its observations. Mr. McTaggart-Cowan announced that the Knutsen Lines M. V. ELLEN BAKKE, sailing out of Vancouver, is the recipient of the 1960 "Greatest Improvement Award".

AIRPORT SCENE OF BLOOD CLINIC

HALIFAX—So far as is known, the recent blood donor clinic staged at Halifax International Airport was the first time that such a venture has been held at a department airport.

All airport personnel—from D.O.T. and private firms alike—pitched in to assist in every way possible to make the clinic a success. Those who were not donors helped in setting up of the clinic, serving refreshments and administrative duties.

Red Cross officials claimed results far exceeded their expectation as a surprising 80 percent of the pledges turned out to donate.

CONTROL TOWER PLAYS "COPS" AND "ROBBERS"

NORTH BAY—Although it is hard to imagine the staff of a control tower having much opportunity to assist local police in catching a gang of robbers, that's exactly what happened in North Bay not too long ago.

The airport manager had cautioned the night staff to keep their eyes open at all times for any suspicious vehicles around the airport. Early in the morning of June 23rd such a car was spotted behind the airport and an alert member of the staff called the North Bay police to report the license number. A few hours later, by checking the license, the police picked up one of the men involved in a robbery of a local store that night. His two companions were arrested shortly after.

A First in DOT Management Training

LONGUE POINTE, QUEBEC—Twelve representatives from marine, air and administrative services met in Longue-Pointe, Quebec, early this summer to partake in the department's first organized management training course.

The course, adopted from TCA's management development program, stressed looking for causes of, rather than solutions to, personnel problems. Through skilful use of case studies, group exercises, business games and other modern training methods, those attending were given an opportunity to examine their present leadership concepts.

Under the joint direction of D. E. De Bow, chief, personnel training and welfare, and A. W. Penner, chief, management development, TCA, the course was most successful. Those attending, included, left to right, back row: B. J. McIntyre, Paul Bousquet, Bob Glass, Don Ross, Charlie Delisle, Bill Whitman and Rex Tilley.

Seated: John Ballinger, Capt. G. G. Leask, Mr. Penner, Mr. De Bow, R. L. Davies, Jack Wilson and Reg. Schroeter.

EXECUTIVE APPOINTMENT

OTTAWA—Cecil Mornington Brant has been appointed deputy director, air services, effective September 5.

A professional engineer, Mr. Brant was formerly chief of technical and policy co-ordination in the telecommunications branch. In his new position he succeeds Dr. Thomas G. How as the third and last appointee in a six-year program under which senior officers of the department have received special training on a rotating basis. Mr. Brant's new appointment is for two years.

HEADING NORTH

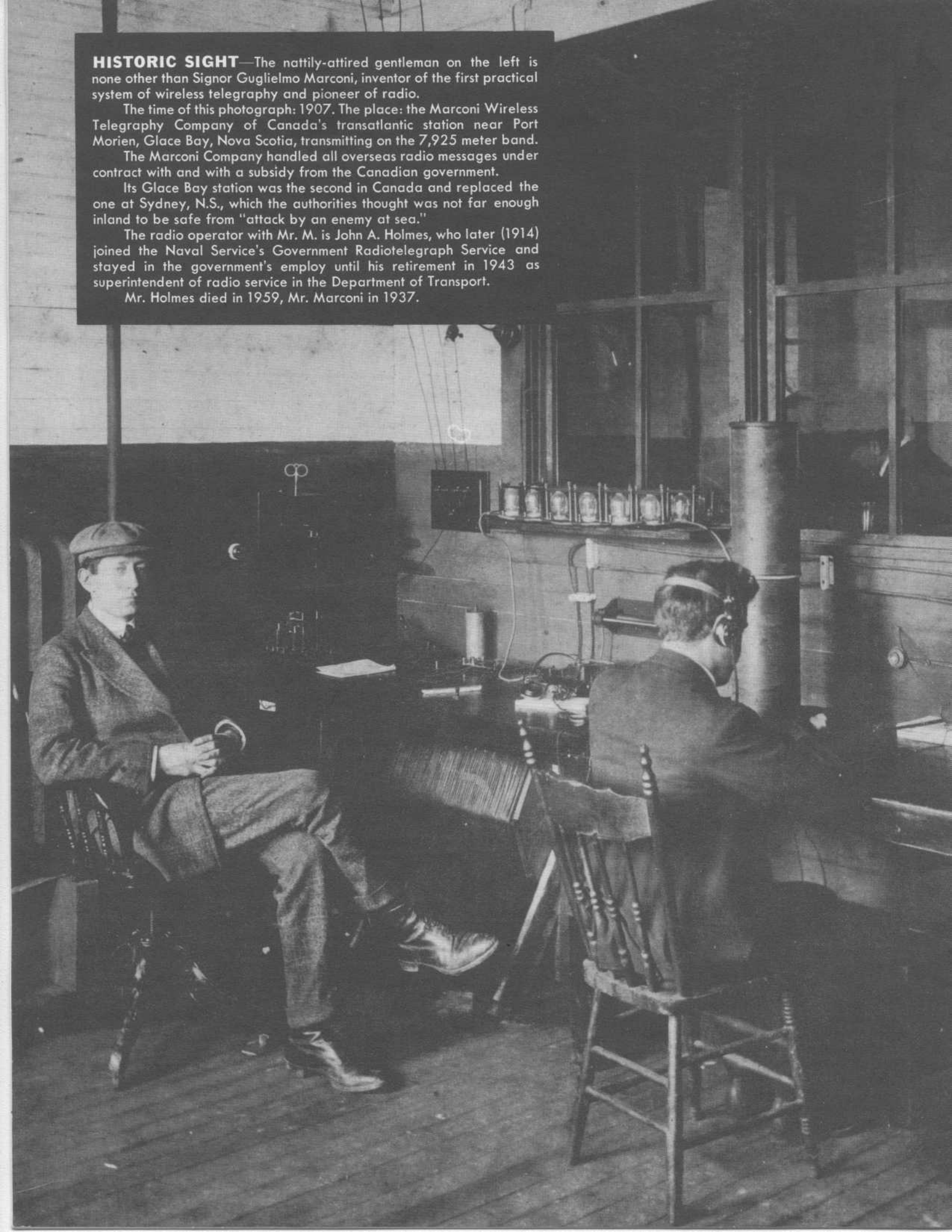
MONCTON—G. J. Richardson, former manager of Moncton Airport, has been appointed operations superintendent at Frobisher Bay airport. Before leaving to take up his new duties early in July, he and Mrs. Richardson were honored at a farewell gathering.

HARMONY IN THE HANGAR

OTTAWA—Four members of the Ottawa Chapter of the Society For the Preservation and Encouragement of Barber Shop Quartet Singing In America (whew!) test the acoustics of the recently-opened D.O.T. cantilever hangar.

H. J. (Jimmy) Jenkins, in his dual capacity as D.O.T. aircraft mechanic and vice-president of the local S.P.E.B.S.Q.S.A., arranged for some 25 fellow songsters to tour the modern hangar and view the latest in aircraft overhaul equipment. So impressed were they that they burst into song. The song? Why, "Come, Josephine, In My Flying Machine", of course!

Left to right are: Art Trott, "Jimmy" Jenkins, Ken Fraser, and Al Haywood.



HISTORIC SIGHT—The nattily-attired gentleman on the left is none other than Signor Guglielmo Marconi, inventor of the first practical system of wireless telegraphy and pioneer of radio.

The time of this photograph: 1907. The place: the Marconi Wireless Telegraphy Company of Canada's transatlantic station near Port Morien, Glace Bay, Nova Scotia, transmitting on the 7,925 meter band.

The Marconi Company handled all overseas radio messages under contract with and with a subsidy from the Canadian government.

Its Glace Bay station was the second in Canada and replaced the one at Sydney, N.S., which the authorities thought was not far enough inland to be safe from "attack by an enemy at sea."

The radio operator with Mr. M. is John A. Holmes, who later (1914) joined the Naval Service's Government Radiotelegraph Service and stayed in the government's employ until his retirement in 1943 as superintendent of radio service in the Department of Transport.

Mr. Holmes died in 1959, Mr. Marconi in 1937.