

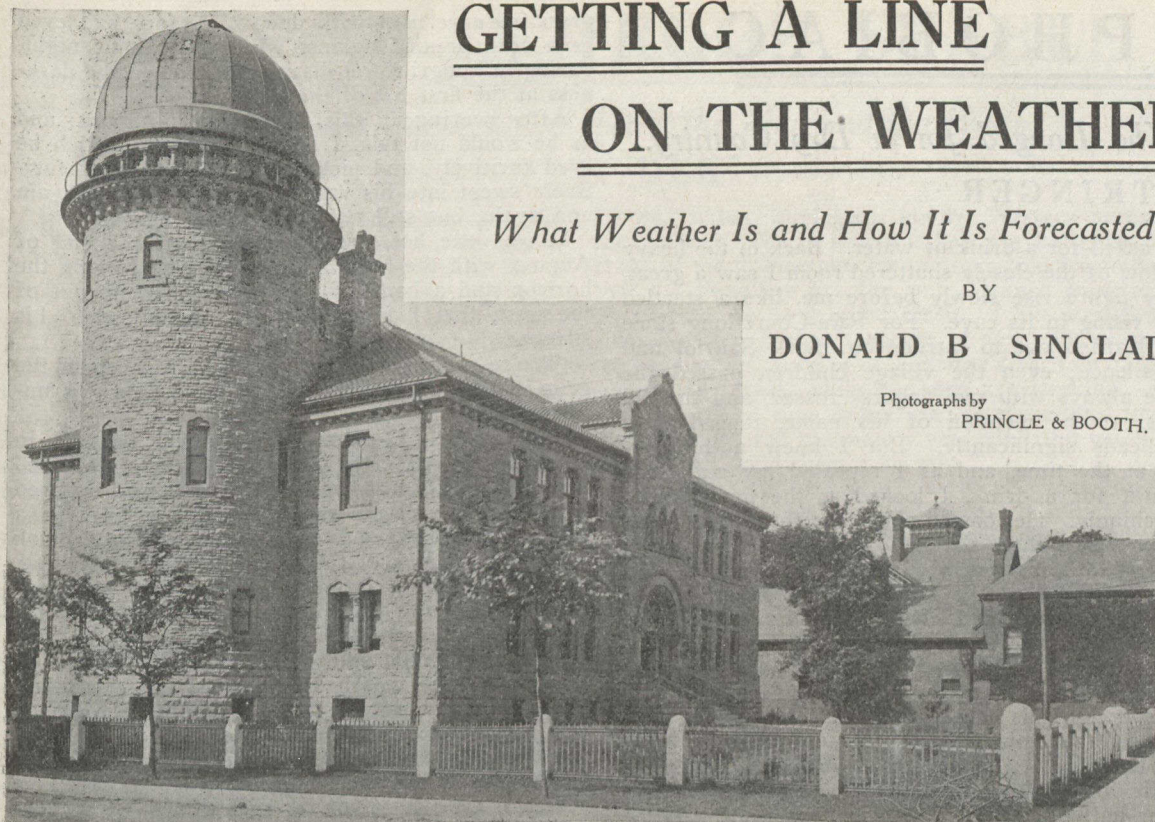
GETTING A LINE ON THE WEATHER

What Weather Is and How It Is Forecasted.

BY

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Photographs by
PRINCLE & BOOTH.



Meteorological Office, Toronto, where weather reports are made for the Dominion.

IN a big, grey building on Bloor Street, in Toronto, sit a score of physicists, chemists, photographers and astronomers. They are the men whose daily business it is to tell a continent what is going to happen next in the drama of weather. To these men, day after day, hot over the wires caging the Meteorological Building, tick reports of the most universal and fluctuating stock in the world.

Back on the Canadian farm in the early days there was sure to be a chap, who had a name for sorcery because of the accuracy of his weather predictions. He was a famous rural character. He claimed that he could tell whether it was going to be a fine day for ploughing by the way the chickens ran through the yard and held their tails. The strangest part of it was that people trusted and believed him; and conducted their menage accordingly. But mention the methods of rural prophecy to the modern weather-man—a smooth-faced young citizen, a science graduate of the university, expert at tinkering with giant telescopes with which he observes the passage of the stars; barometers for measuring the pressure of the atmosphere on our heads; delicate clocks which never run down, and by which he sets the pace for hundreds of clocks throughout the Dominion. He will quietly laugh; but not in a high-brow, superior sort of way; for he admits that like the old-fashioned weather prophets, his predictions are often wrong, too.

To the scientific investigator, weather to-day is almost as much of a mystery as it was to the odd youth back on the farm, who had enough poetry in his make-up to speculate about it. It does not seem to want to settle down and be nationalized and unified like Doukhobors, and Slavs and Galicians. When, three weeks ago, you could fry an egg on the pavement in Toronto, you had to wear

an overcoat in Edmonton. It defies international laws and boundaries. You cannot keep it out by a duty—or we would never have imported that hot wave of famous memory from Uncle Sam. Often it gets marked down to bargain prices and there is a weather glut on the market of the kind you least expect and don't want. Weather seems to fall impartially upon the just and the unjust; upon the millionaire with a clinch on the stock market, or a shop girl with one suit a year, and the sky cloudy; the fisherman in his dory creaking out of Sydney Harbour way down in Scotia; the swarthy lumberjack, pulling on his sweater up in the Ontario woods; the prairie farmer, watching the dew glistening on his seas of No. 1 hard in the early morning sun; the trailman among the muskies of the Mackenzie.

One thing science has taught about what we call weather. Appearances are deceiving. The agile, clean-shaven young man who in a perfectly business-like manner at the Meteorological Service Building writes out a forecast for the wheat country about Melville, Saskatchewan, never glances skywards. Whether the moon has a ring around it, or how many stars may be inside the ring, is a matter of small concern to him; except that he tries to explain the movements which produce such phenomena as sun-dogs, moon-rings, dry-weather haze and so forth.

Weather is the condition of the atmosphere in a certain region at a certain time. Often it is fickle, capricious, moody and inconstant—to those who know nothing scientifically about it. But to the weather-man, the flow of the earth's atmosphere in what he calls its "definite currents" presents a mechanism of marvellous intricacy and beauty. The only way you can appreciate his understanding and sympathy toward weather is to talk it over with him. The other day I came across him at the Meteorological

Building in Toronto, telegram in one hand, tracing lines with his other over a large map scored with a network of red.

"How do I forecast the weather? Why the weather works almost according to law; it's monotonous when you get to know it," he announced, pointing to the map.

"There's the Eastern hemisphere, there's the Western. You see! Now in each hemisphere are found two principal zones of atmospheric action: a zone within and just outside the tropics, where the trade winds blow with remarkable persistency in one direction, and a zone in the middle latitudes, where the general movement of the atmosphere is from Westward to Eastward. It is within and with this Easterly drift that storms pass across Canada. Generally you will notice that weather changes come from the Westward. So much for that. The main part of the forecasting is to keep track of these zones. We have got instruments and equipment to do that. The amateur weather prophet did not have that advantage. He might make a shrewd observation on the weather, only to have his prediction upset by the advent of conditions entirely unforeseen and foreign to his constituency of speculation. Now we receive daily telegraphic reports in this Central Toronto office, at the same time from branch stations from Dawson City to Halifax and from Maine to California. We know all about the atmospheric pressure, the temperature, the direction and velocity of the wind in every cranny of the continent. If the barometer reading shows low pressure in a certain district, we know that more air is needed there. From the highest pressure district, to this spot, there will be a rush of air. By close attention to our maps and instruments, we can gauge the extent of the country to be affected by the movement. That's weather prediction."

To the weather-man, his subject is all regularity, all uniformity, all logical—even the great heat wave of July 1 and after.

"Why that heat wave! So many people ask me about that. It was this way: In the north of the continent was the region of low pressure—the region of cyclone. In the South, over the Mississippi, was the anti-cyclonic movement of high pressure. Out of this region of the anti-cyclonic, the winds from the south-west started an atmospheric trek northwards. And they brought the heat of the Southern States along." He said this last in the most casual way.

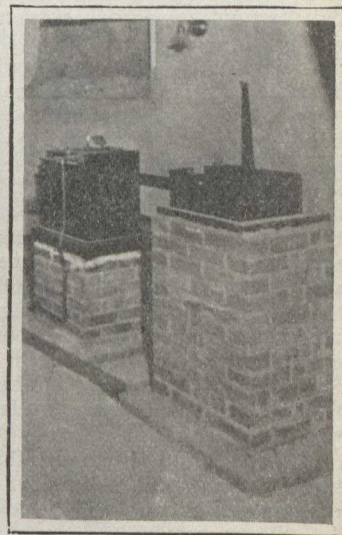
I reminded him that the mercury sat down at 103 in Toronto planning misery for many.

"But it was really cool in Edmonton," he said, "just a little over fifty."

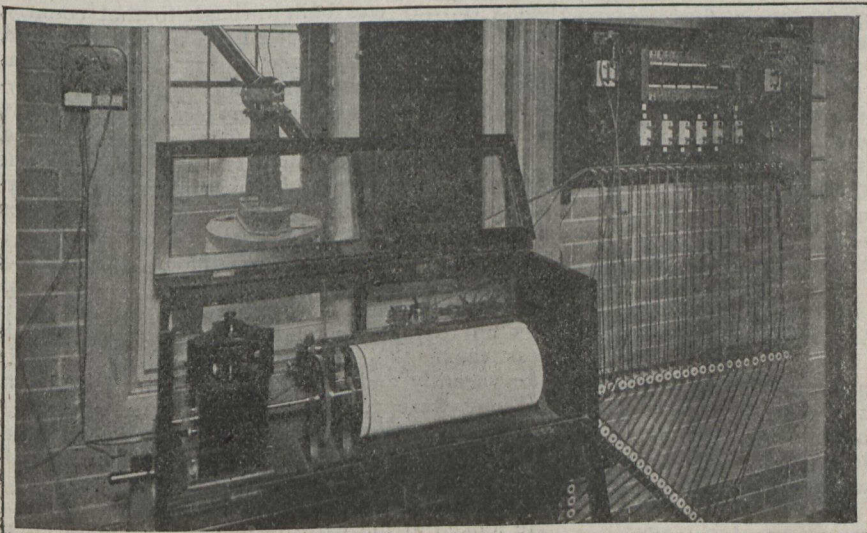
"How was that?"

He explained that an opposite movement set in from the West and stalled the heat in Ontario.

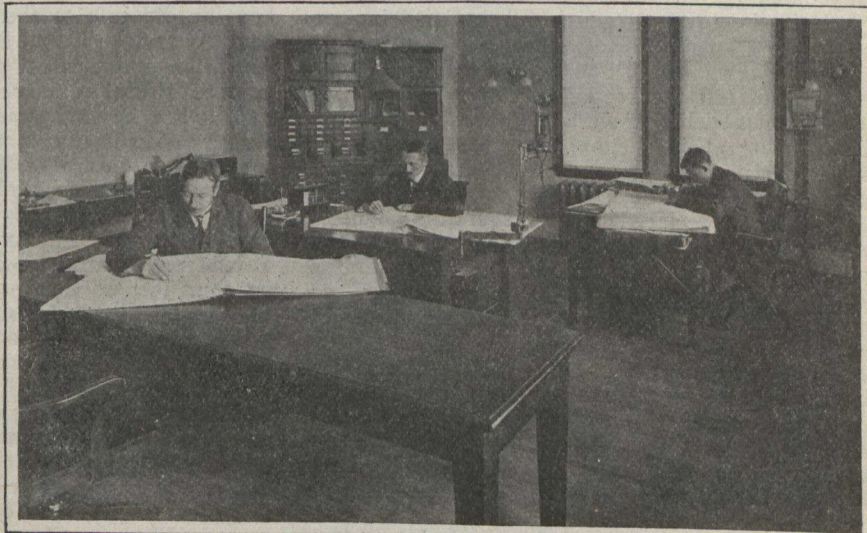
"Lucky West!"



The Barograph which records variations in atmospheric pressure.



In the Instrument Room—A clock and transit telescope; both necessary in the exact observation and forecasting of divergent weather conditions.



"The weather men whose daily business it is to tell a continent what is going to happen next in the drama of weather."