

CHATS BY THE WEATHER MAN.
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Radio Service.

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(NOT FOR PUBLICATION)

ANNOUNCEMENT: Some folks seem to think that weather forecasting is one of the Black Arts. Or else just pure guesswork. It is to laugh. For really those weather notices you see in the papers each morning are founded on scientific reasoning and observations and aided by delicate instruments which would make a combined harvester turn pale with envy. In today's CHAT BY THE WEATHER MAN, that mysterious gentleman is going to tell Station _____'s listeners some secrets about these complicated weather instruments. Please stand by.

---ooOoo---

It's lucky that my visitor came in when the day's rush was over. If he had come to see me while we were busy tabulating the morning's weather telegrams, I'm afraid he would have had to sit and think for an hour or so until our rush work was over.

But as it happened, the weather map for the day was done. We had answered the morning's 'phone calls and told Mrs. Jones that she could wash her clothes and hang them out, because we didn't think it would rain today. We had advised the railroad people that we didn't look for any freezing weather for a day or so-- told the city commissioners that they had better have their snow plows ready for Friday or Saturday when a snow storm was likely--- and advised a score more folks on this and that.

I had just heaved a big sigh of relief and was sitting back in my desk chair, vowing that I wasn't going to forget my New Year's resolutions so soon, when---

In came the visitor, announced by a rattling knock on the door.

"Come in", said I, expecting something interesting. I got it.

The visitor was a giant of a man, burned a red-brown by the sun and wind of the desert. He wore a big black sombrero. Said he was the owner of the Crow-foot Ranch out Salt Creek way and that he was in town to sell some cattle. His name, he announced, was Austin, Jim Austin. Everybody in Salt Creek would know him, he said.

"What can I do for you, Mr. Austin?" I asked.

"I want to see a live Weather Man before I go back to feeding cattle", said the visitor. "And I want to go up there on top of this building and look inside that chicken coop up there where you keep the man who makes the weather. Can you fix it so I can?"

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"Certainly", said I. "But you don't have to climb up to that room on the Federal Building to see a weather man. Take a squint at me".

Austin did--- and seemed disappointed. But he was not to be put off. So I told him that we kept weather instruments in that shelter on top of the building and that we also had a few instruments right down there in the office. I showed him a meteorograph and explained how it works. The meteorograph is an apparatus that automatically registers wind direction and velocity, precipitation and sunshine, and it's almost human. It makes records of the weather that HAS ALREADY HAPPENED--- but not even a meteorograph can predict the sort of weather that's coming in the future, I told the visitor.

Well, when I had finished the explanation, Austin told me he'd always wanted to see that instrument THAT PREDICTS THE WEATHER. Said he'd heard about such a machine, but had never seen one with his own eyes. So I had to repeat my little speech again and tell Austin that the meteorograph positively does not PREDICT tomorrow's weather, but merely the weather as it occurs.

When I got through, Austin fished a scrap of newspaper out of his coat pocket, gave it to me, and said--- "How do you fellows make up these weather notices, then?"

I read the notice. It was a regular FAIR AND WARMER TODAY observation.

But the visitor wanted the whole story, so I decided to take him up to the weather tower and give him a look at the other instruments up there. As we climbed the stairs, I began---

"Benjamin Franklin observed that storms move eastward across the country", I began. You see I had an idea by this time that Austin was half joking, so I decided to see the thing through. Well, to make a long story short, I told him that great swirls or eddies in the atmosphere, hundreds of miles across, move from west to east across the country, as a rule. These areas are called AREAS OF LOW PRESSURE, or cyclones, or else just plain STORMS.

"Now", I continued, "there are 200 weather stations, similar to this one, in all parts of the United States. These stations are connected with each other by telegraph lines. So, when these Areas of Low Pressure--- these Storm areas--- move along, generally at a speed of 25 to 40 miles an hour, the stations take their measurements as they move. The storms--- their speed, direction, and so on--- are carefully mapped and then the information is sent on to other stations".

Austin seemed to be seeing a great light. "But how do you measure the storms?" he asked.

We were up on the roof of the Federal building by now, and inside of the tiny enclosed weather tower. The weather instruments were before us.

"With such instruments as these", I replied to Austin's question. "Here's the instrument board. These are barometers. They measure and record the weight, the pressure, of the air. And these thermometers here measure and record the temperature and moisture content, or humidity, of the air. Here are some wind vanes and an-e-mo-me-ters to measure and indicate the direction and speed of

the wind. The ne-pho-scopes here help us study the kinds of clouds in the sky as well as the direction in which they are moving. We have still other instruments, such as the meteorograph I showed you downstairs. There are also instruments to measure rain and snow fall".

"What good are these jiggers, anyhow?" Austin wanted to know.

"They tell us the condition of the atmosphere so accurately that we're able, when we have all the rest of the weather information that comes to us from other observers in different parts of the country, to predict the weather from a few hours to 48 hours in advance", I said. "The predictions are correct nine times out of 10".

I noticed that Austin was impressed. "How's it done?" he asked.

"It's really rather a long story", I said, "but I'll give you the gist of it. Every morning early, the weather man makes his observations. It takes him from 15 to 20 minutes to read these instruments and the weather observers in all of the 200 stations make the observations at precisely the same time each morning. When the observations are completed, the weather men send them to the central weather office in Washington, D. C., and to all other important offices in other cities BY TELEGRAPH and in code. All this information reaches all the stations at about the same time each morning and about one hour after the observations were taken.

"Now, when the weather observers in the various stations get these reports", I continued, "they immediately get busy. Each observer has a blank map of the United States on which the weather stations are shown by small circles. As the weather man receives his reports, he records the weather conditions at each station with appropriate signs. Let's take a case. Say this is the San Francisco station. We get word by telegraph that it's raining cats and dogs in Kansas City. So we write the letter R in the Kansas City circle. That means rain. If it's cloudy in Kansas City, we shade the Kansas City circle with a pencil. If it's partly cloudy, we shade half the circle. If it's clear, what do we do?"

"Leave the Kansas City circle white", said the visitor quickly.

"Right", said I. "And in case it's snowing in Kansas City, we write the letter S in the circle. Do you see?"

Austin said he saw.

"The direction of the wind is indicated by an arrow pointing in the proper direction", I went on. "Near each station, we enter figures recording the temperature, the barometer reading, the velocity of the wind, the rainfall or snow fall for the PRECEDING 24 HOURS AT THAT PLACE. After all the reports have been translated and entered on the weather map, we draw lines in RED through placed having the same barometric pressure. These lines are called ISOBARS. Other lines, drawn in BLUE, connect stations having the same temperature for the day. These are called ISOTHERMS. The complete chart is the weather map. Do

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you see what we've done, Mr. Austin?"

"Yes", Austin answered. "It's just like you could get up in a balloon so high that you could see the whole United States, and then looked down and saw the weather in all parts of the country".

"Correct", said I. "But you'll notice we haven't done a thing but draw a picture of the weather for the whole Nation for one day. We haven't predicted the weather for the next day yet, have we?"

"I reckon not", Austin said. "And that's what I want to know about. What good are these charts after you've made them?"

"Why, the maps give a picture of the weather for this morning. With all the signs before us, we can generally predict the weather for that given day and even part of the day to follow", said I. "You see, the weather usually travels from WEST to EAST. Now, every weather map for the U. S. almost invariably shows places where the ATMOSPHERIC PRESSURE is above or below the normal. The places where the air pressure is below 30.00 inches, are marked LOWS. Regions where the pressure is above 30.00 inches are marked HIGHS. LOW PRESSURE AREAS ARE GENERALLY STORM AREAS".

"Now I'm beginning to see it all", the visitor said. "With all those measurements you make, you can tell where the storms are and which way they're moving, eh? If a fellow knows how fast a storm's moving and which way it's going, he can tell how soon it should hit his country, can't he?"

"Precisely", said I. "But you must remember that we don't fully understand all the signs yet. And then the weather's changeable. Sometimes the signs play false and that accounts for that one error out of ten predictions made by the weather man".

"Well, it's not so bad at that", said Austin as he turned away from the instrument board and headed for the stairs. "If I could hit the cattle market nine times in 10, I'd be fixed up mighty fine about now".

And with that wise remark, we went below.

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ANNOUNCEMENT: The Weather Man will chat with you again on Wednesday, January 25, when he will continue his short talks on something everybody talks about but nobody does much about. Station _____ will broadcast the next chat.

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National Oceanic and Atmospheric Administration

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