UNITED STATES DEPARTMENT OF AGRICULTURE — Radio Service — OFFICE OF INFORMATION

CHATS WITH THE WEATHER MAN. Friday, November 15, 1929.

ANNOUNCEMENT: Every other Friday, our old friend Ob. Server, has been chatting with us about his chats with the scientists at the United States Weather Bureau. He has shown us some of the latest developments in that ever fresh subject of the weather. Today he tells me he is going to talk about clouds --- What's new in clouds, Mr. Ob. Server? -----

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There is a movement on foot in this country and abroad to make clouds more useful. Dr. W. J. Humphreys, meteorological physicist of the U.S. Weather Bureau, told me about it.

Of course, you know, clouds are one of the aids in weather forecasting. The aim now is to make them better aids, by setting up standards for classing the clouds.

When I was a boy, we used to say the clouds took on the shape of the things over which they passed. Anyway, there seemed to be no end to the variety of changes, as you watched them. Like Shakespeare's Hamlet, I've seen a cloud that looked like a camel, a weasel, and a whale all at once. I never thought in those days there could be such a thing as a classification of clouds.

Since then I've found that weather men do group most clouds in a few main types. That is for handy reference in reporting the weather.

But such labeling and naming of clouds is comparatively new. All through classical times, clouds drifted by without being tagged. About 1790, a Frenchman found that for identification purposes he could group most clouds under a few main heads. But he gave those classes French names. Those names didn't stick to clouds passing over Germany and England and other countries.

Then in 1803, Luke Howard, an English Quaker druggist gave the main kinds of clouds latin names. Latin being the Esperanto of those times, as Dr. Humphreys says, the names stuck. That classification furnished the basis for the classification of clouds now being used by the leading weather services of the world.

Luke called those thread-like, wispy clouds you often see on an otherwise clear day, Cirrus clouds. Those which spread out in layers, he called Stratus. Those beautiful heaped-up, wooly clouds he called Cumulus. And rainy clouds he called Nimbus.

That was a little too simple for practical use. Many clouds are a mixture of those kinds; so later meteorologists combined some of

Druggist Howard's names and made the more complete classification used today. Thin fibrous clouds over the sky like a layer, they called Cirro-Stratus. Very high wispy clouds making a lumpy or curdled sky, they called Cirro-Cumulus. The small heaped-up or wool-pack clouds high up in the air from which rain doesn't fall, they labeled Alto-Cumulus. A sheet of fairly dense clouds through which you could still see the sun, they named Alto-Stratus. They reserved Luke Howard's name of Stratus for the low sheet of clouds. These heaped-up thunder storm clouds, they called Cumulo-nimbus.

Of course, you all know, a cloud is just a fog in the sky; or, a fog is a cloud on the ground. There is no real difference, although there is a little difference in causes. The fog is usually caused by the mixing of warm and cool air where the fog is, or by the surface air cooling where it is. The cloud is formed by warmer air going up and cooling by expansion as it ascends.

However, the particular type or kind of cloud you have at any time depends on its position with reference to a storm or to general weather conditions. So you can readily see how important clouds may be in weather forecasting.

For instance, if cloud is only being formed high up, you don't expect rain or snow right away. If a cloud of another sort is formed, say a cirrus cloud, followed by lower and denser clouds you may look for a change in the next several hours. Clouds help show the quantity of water in the air and the temperature and kind of movement of the air.

To the forecaster, the clouds are just bits of circumstantial evidence. He does not make his forecast from reports of clouds alone. Temperature, and pressure, and wind velocities and directions, and cloud forms are all checked one with the other, they are all aids or evidence pointing one way or the other. The weather detective pieces together these bits of circumstantial evidence and from them makes his forecast.

But the reports he uses generally come from a number of different observers. As with other witnesses, they don't always see the same. They do not all know cloud types equally well. Relying on his memory for the differences, the observer may mistake the proper classification.

Dr. Humphreys and other meteorologists, both here and in Europe, now propose to make cloud reports more accurate by equipping all observers everywhere with duplicates of the same series of pictures of the different classes of clouds. The observer will then be able to look at the clouds, then at the series of cloud pictures in a book or on a card in his hand, compare them, and pick out the picture of clouds which looks nearest like the cloud-scape he sees. Each picture will have a definite number or code symbol. The weather observer will include that code number or letter in the report which he wires to the central weather office. At the weather office, the translator will look that number up on his duplicate series of pictures, or most likely remember it, and so place before the forecaster a more accurate idea of what the observer has really seen. In other words, there will be a set of standards for the different types of clouds, now merely reported by name.

That is just another little wrinkle by which weather forecasting may be made even more accurate than it now is.

The type of clouds is not the only thing reported, however. The direction and velocity at which clouds move furnish evidence of the movement and velocity of the winds in the upper air. But all clouds do not drift. Some clouds don't change their position. Lens shaped clouds hang suspended in one position, for instance. And around mountain tops the air rising up the mountain side often forms clouds that just hang or rest on the mountain, continuously forming on one side and evaporating on the other.

In fact, in some places queer stationary clouds are formed which are distinctive in that locality. The best known cloud in the world is probably the cloud which spreads like a table-cloth over Table Mountain, near Cape Town, South Africa.

The main point about clouds however, is that our weather scientists are looking forward for new ways to increase the efficiency of our daily weather forecasts. As the poet says:

"Nothing that is can pause or stay;
The moon will wax, the moon will wane,
The mist and cloud will turn to rain,
The rain to mist or cloud again,
Tomorrow be today."

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ANNOUNCEMENT: Our Ob. Server has just told you about what is on the horizon for clouds. Friday after next, he will be back to tell Station_____'s audience of other advances in the work of the U.S. Weather Bureau.

National Oceanic and Atmospheric Administration

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