

atmosphere highly important, which, Dr. Humphreys said, could often be gauged fairly well by the look of the sky.

Mr. Devereaux remarked that weather messages to airports were not so complete as they needed. Also, he stated, airways are not laid out along the best routes with respect to fair weather. Mr. Cameron said that forecasting of fog was not generally possible without knowledge of the temperature aloft.

### MAN'S MASTERY OF THE HORIZON

By GEORGE YATES, Airplane Photographer, *Register and Tribune*, Des Moines, Iowa

This concluding paper of the aeronautical program comprised a most interesting account of aeronautical photography and the effect of weather on it. Mr. Yates displayed an airplane camera. On a photographic expedition in the Mississippi Valley, but 472 out of 1187 days could be used for photography.

The transmission by radio of a German photograph of a thunderstorm to an airplane was mentioned. Mr. Yates said that he had flown through a thunderstorm north of Kansas City. A streak of lightning, which struck the earth, was about 4 to 5 feet in diameter as it passed the airplane. He saw either this or another flash at about the same time hit a farm house and set it on fire. He had never known an airplane to be struck by lightning.

Visibly clear air is not the same as photographically clear air. By infra red one can photograph through smoke haze. Five photographs made at elevations exceeding 40,000 feet, were used for determining the altitude more accurately than is possible by barometric calculations. By different methods of calculation, a barometric altitude may differ by 5,000 feet.

Mr. Yates described a camera that photographs its own position. It is known as the sextant camera. It is accurate to within one half mile. It takes the sun and day of the month. One hundred pictures may be made on one roll, and these can be developed on board the airplane.

Owing to the effect of low temperatures at considerable heights the airplane camera is kept at an even temperature by an electrically heated jacket.

Last summer, Captain Stevens pointed a camera in the direction of his objective, Mount Rainier, and photographed it at a distance of 227 miles, even though he could not see it. A copy of this photograph was shown at the meeting. On it, Mt. Rainier appears distinctly lower than other mountains, because of the curvature of the earth. The photograph was made from an altitude of 17,000 feet.<sup>1</sup>

Dr. Humphreys' paper, "A factor in the Temperature of the Stratosphere," was published in the *Mo. Weather Rev.*, Dec., 1929, p. 507-508.

This concludes the report of the Des Moines meeting of the Society.—*Charles F. Brooks, Secretary.*

<sup>1</sup>A later photograph of Mt. Rainier, from an alt. of 20,000 ft., over Crater Lake, 270 miles away, was announced May 3.—*New York Times.*