

A Science Service Feature

Released upon receipt
but intended for use
November 4, 1930.

? WHY THE WEATHER ?

Mailed October 28, 1930.

By Charles Fitzhugh Talman,
Authority on Meteorology.

MORNING AND "NIGHT" RAINBOWS

In the familiar weather proverb,

"A rainbow in the morning
Is the shepherd's warning;
A rainbow at night
Is the shepherd's delight,"

the word "night" means late afternoon. There are two physical explanations of this proverb, as follows:

1. We see the rainbow where rain is falling, while the sun is shining in the opposite part of the sky. Our rainstorms usually come from the west and pass away to the east. A morning rainbow can only be seen in the west and indicates that rain is approaching us. An afternoon rainbow is seen only in the east and shows that the rain area is receding from us, giving place to clear skies.

2. "Since," says Dr. W.J. Humphreys, "the rainbow is seen only in local showers (requiring simultaneous rain and sunshine), and since the shower normally implies a local uprush of the air, due, as a rule, to surface heating, it follows that the general weather significance of the morning and evening bows is essentially the same as that of morning and evening showers. Now the earth's surface grows warmer from early morning until midafternoon, unless the sky becomes clouded. Hence during this time the air rises higher and higher, and owing to its resulting expansion, its temperature and hence its vapor capacity become correspondingly less. Clearly, then, a morning rainbow means that the air is rather humid and rain is likely, for a shower has occurred with but little rise of the air and slight cooling. The evening rainbow, on the contrary, indicates that the air is comparatively dry, and fair weather is probable, since the existing shower has required the considerable cooling incident to high ascension."

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21st and B Sts.,
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