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January 15, 1935

A Science Service Feature

? WHY THE WEATHER ? Mailed January 8, 1935

DESERT MIRAGE

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The delusive appearance of water in a desert is due to refraction (not reflection, as some schoolbooks state, though the effect is almost the same as if actual reflection were involved) by a layer of strongly heated and hence rarefied air overlying the ground below the level of the observer's eye. The apparent water is a refracted image of the lower part of the sky, and an effect of rippling is often produced by a light breeze or by rising air currents. The effect is further enhanced by the refracted and inverted images of trees or other terrestrial objects, which seem to be mirrored in the water.

Mirage thus produced is called "inferior mirage," or sometimes "desert mirage," though it is by no means peculiar to deserts. You can see it any time over a hot stove, and it is fairly easy to discover on calm summer days over hot roads and pavements. In all such cases it is necessary to have your eye not far above the level of the heated surface where the mirage appears; as, for example, when you stand at the right distance from the crest of a sloping roadway. "Street mirage" is one of many commonplace phenomena that are seldom noticed by the casual observer, and that, as a consequence, are described from time to time in newspapers and magazines as rare freaks of Nature.

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