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? WHY THE WEATHER ?

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THE GREEN RAY

If St. Patrick's day is exceptionally clear the sun may celebrate by giving a green flash just as he disappears below a distant horizon. But lest the sun be given credit for too much discrimination, we should add that a green flash might be seen equally well on a clear April Fool's day or Fourth of July. As the last bit of the sun's rim sinks below the horizon, the light may sometimes be seen to change suddenly from yellow to green or blue-green. The same colors appear in reverse order at sunrise. Dr. W. J. Humphreys gives us essentially the following explanation.

Sunlight is always bent or refracted somewhat in traveling through a considerable thickness of the atmosphere, as when the sun is near the horizon. Because of this bending of the rays of light slightly around the earth we see the sun when it is really below the horizon. And, as the red rays are bent least and the blue and violet most, all components of the white light of the sun donot disappear at the same instant. After the red no longer reaches the eye, we can still see the green for just an instant. The green does not in turn change to violet because the very short violet rays cannot penetrate the long stretch of dense lower air. For the same reason, the green flash will not be seen when the lower air is hazy. Under these conditions, the sun usually looks red as it sinks in the sky, for only the long red waves succeed well in passing through the damp or dusty air.

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