A Science Service Feature

Released upon receipt
but intended for use
December 29, 1933

? WHY THE WEATHER ?

Mailed December 22,1933

THE CORONA

By Charles Fitzhugh Talman,
Authority on Meteorology.

Everybody is familiar with the nocturnal spectacle that Tennyson describes as

> ...The tender amber round
> Which the moon about her spreadeth,
> Moving tho' a fleecy night.

This diffuse reddish or rainbow-tinted circle is called a "corona." It occurs about the sun as well as the moon, and also about street lamps and other terrestrial lights when viewed through a misty atmosphere. On account of the dazzling brightness of the sun the corona formed about it generally escapes notice. In seeking it you should protect your eyes with smoked glass or dark-colored spectacles, or stand in such a position that the solar disk is just out of sight behind some opaque object such as the projecting angle of a building.

It is unfortunate that this optical phenomenon bears the same name as the tenuous outer atmosphere of the sun, seen only during total eclipses. The meteorological and astronomical coronas are as little related to each other as is the locust of the vegetable kingdom to the locust that preys on the farmer's crops.

The optical corona is due to the process called "diffraction," which occurs when light is bent around objects in its path, instead of passing through them, as in refraction. The process involves separation of the prismatic colors. The diffraction phenomena of the atmosphere are produced by the water droplets of cloud and fog, or sometimes by fine dust.

Not all the rings seen around the sun or moon, shining through clouds, are coronas. Some are halos, due to the refraction of the light by ice crystals. Most coronas are of much smaller diameter than the common halos.

(All rights reserved by Science Service, Inc.)

SCIENCE SERVICE
21st and Constitution Ave.
Washington,D.C.