

A Science Service Feature

Released on receipt
but intended for use
May 19, 1927

? WHY THE WEATHER ?

Mailed May 12, 1927

By Charles Fitzhugh Talman
Authority on Meteorology

THE SPECTER OF THE BROCKEN

It is a familiar experience to those who navigate the air to behold the shadow of their craft cast upon a nearby sheet of cloud or fog, generally surrounded by rings of rainbow-colored light. This optical phenomenon is known as the "specter of the Brocken". Before aerial travel was as much in vogue as it is today Brocken specters were seen mostly from mountain tops. As, from such a situation, the specter can only be seen when the sun is low and when a more or less vertical wall of cloud is near at hand on the side of the mountain opposite the sun, observations of the phenomenon were comparatively uncommon.

The Brocken specter owes its name to the celebrated German mountain where witches were once believed to assemble on Walpurgis night. It is often seen from that mountain, and an account of its observation there, published by Esaias Silberschlag in 1780, first brought it to the attention of the world.

An erroneous idea that has prevailed widely in regard to this phenomenon is that the shadow is of enormous size. Even so careful an observer as Tyndall described the specter, which he saw in the Alps, as "colossal" and "gigantic". As all shadows cast by objects in sunlight taper away, instead of growing larger with distance as do those formed by a small source of light, such as a candle flame, the specter is actually smaller, in all cases, than the person who casts the shadow, and the impression of great size is due to an overestimate of the distance at which it is seen.

(All rights reserved by Science Service, Inc.)

SCIENCE SERVICE,
21st and B Sts.,
Washington, D.C.