

ALPENGLOW: A RARE SUNSET

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ABSTRACT

An alpenglow gives one an empty feeling of gloom and despair. Although periods of drought create a condition for an almost daily occurrence of this phenomenon, most of us miss it because of our preoccupation with "living" and our "indoor" habits. Too, it lasts for but minutes in the lowlands where most of us live. One reason for noting the event is that there's truth to the adage, "Red sky at night, sailor's delight; red sky in the morning, sailors take warning." Although an alpenglow is created by the same conditions as red sunrises and sunsets, it occurs less frequently.

It is an unusual condition that causes the sky to be red. And, from time to time the sky even glows, giving one an empty feeling of gloom and despair. With obvious reference to this morbid feeling, it has been dubbed "teinte cadaverreuse" in the Alps (3).

Although an alpenglow can be seen just about anywhere in the world, it is called that because it is most commonly seen on mountain summits.

Because of the time of day, our "indoor" habits prevent most of us from ever seeing this spectacular event. Or, if we chance to see it, we generally have more on our minds than to stand in awe of this quite natural event.

Since it lasts for only a few minutes in the lowlands, one must be outside at precisely the right time after sunset or before sunrise to see it. In the highlands, it could occasionally last for the better part of an hour. Since most of us live in the lowlands, the event goes mostly unnoticed, is little understood, and seldom talked about.

As in observing a beautiful sunset, one must lend his entire being to the event in order for it to have a personal meaning. A sunset is too much of a commonplace event for it to make much of an impact on most of us.

Perhaps, this can be changed! Maybe at its next occurrence, at least some of the read-

ers may enjoy a few moments of unparalleled experience, and pass it on to a friend!

We've all heard the adage, "Red skies at night, sailor's delight; red sky in the morning, sailors take warning". The alpenglow is a very special "red sky". And, there's truth to this adage.

Consider that all across the United States most of our weather comes from the west. That's because we live in the Westerly Wind Belt of our hemisphere.

Consider further the possibility that a weather system is coming toward us from below our horizon. Rising up into the western skies for as much as six to eight miles, such a disturbance would block out the sun's light.

Next, consider a clear western sky for several hundred miles to the west. This would greatly expand the transmission paths of the light of the setting sun.

Another important factor to consider is that air molecules will scatter light, the shorter (blue) wavelengths being scattered more than the longer (red) wavelengths. This causes the sky to appear blue throughout the day and red with the rising and setting sun.

When the sun is near the horizon, the light has traveled through so much of the atmosphere that the blue light is all but scattered away. This causes the sun to have a deep red appearance, as compared to its bright white appearance when it is higher in the sky.

Scattering is probably the best explanation for red sunsets and maybe alpenglows too. However, an observer of alpenglows in the Alps wrote of the rocks and snow having a "livid appearance" in the blues, after which came the reds and rosy pink of "recoloration" or the "afterglow" (3). He said further that the order is reversed at sunrise. This leaves a distinct possibility that the tinted sky of alpenglows may be both red and blue, of the two visual spectrum extremes. The added evidence is that colored photo-

graphic slides taken during sunset or sunrise could noticeably be tinted either blue or red.

One can also observe a rather spectacular post-sunset glow during the event of an overcast. The light is not only intense, but possibly refracted from far below the horizon as well.

With the conditions of a clear sky to the west, apparently we get red sunsets, the distance and the amount of clearing affecting the intensity of the red. And, if it is clear toward the east, we get a red sunrise. Because we have the potential for at least one front going past us every 3 to 5 days, it is not likely that we'd end up with both a clear western horizon as well as a clear eastern horizon.

That's why red skies at night mean "sailor's delight". There are probably no fronts approaching and the weather is more than likely to be nice for at least a day or two.

On the other hand, when the clear horizon is far toward the east, it means that we've likely not had a front to pass over our area for at least a couple of days. Therefore, that greatly increases the chances for one in the immediate future. And, that's why a red sky in the morning means "sailors take warning".

If you think about it, the adage is only

true for westerly wind regions--not for tropical or polar easterlies. The opposite is true there.

Of course, the alpenglow is not just any red sky. However, the drought conditions of recent years should have created this condition into an almost daily occurrence in some places. It would be interesting to corroborate these postulations.

Even though it may give us an eerie feeling, it is still a sight to behold. And, given a better understanding and appreciation of the event, it could add to the small pleasures of life.

REFERENCES AND FOOTNOTES

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3. Anon., 1913: "The Alpenglow," *Scientific American*, 108:484; May 24.

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