A Science Service Feature

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? WHY THE WEATHER ? Mailed November 30,1927

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THE FOEHN WIND

The "foehn" (pronounced like "fern", but without any "r" sound) is a dry descending wind, warm for the season, characteristic of many mountain regions. The air cooled by expansion in ascending a mountain slope. This leads to condensation of its moisture, which checks the fall of temperature of the rising air through the liberation of latent heat. The wind deposits much of its moisture as rain or snow. In descending the opposite slope it is strongly heated by compression and it arrives in the valleys below as a warm and very dry wind. In winter it causes snow to disappear with great rapidity; not merely melting but evaporating it into the dry atmosphere; whence this wind is nicknamed the "snow-eater".

Foehn winds occur in many parts of the world, including the plains region east of the Rocky Mountains in this country, where they are called "chinooks," but those of the Alpine valleys have been known longest in the scientific world and have been most thoroughly studied. Strange to say, the foehn was first studied by geologists and became very prominent in geological literature before meteorologists paid much attention to the subject. The belief prevailed for some time that this dry, hot wind originated in the Sahara Desert. As the fossils in the Sahara indicate that the desert was once under water, geologists saw in the foehn a means of explaining the Ice Age. They reasoned that snow and ice are now kept from accumulating over central Europe by this desert wind, but when the desert was a sea there was no such check on glaciation. This ingenious hypothesis was upset by the meteorologist Dove, who pointed out that, on account of the earth's rotation, a wind originating over the Sahara would be deflected to the eastward as it moved to higher latitudes and thus could not affect the Alpine region. Dove believed that the foehn winds came from the West Indies.

The correct explanation of the foehn, as set forth in the first paragraph above, was first announced by the great Austrian meteorologist Julius Hann in 1866.

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