A Science Service Feature

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? WHY THE WEATHER ?

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MEASURING RAIN ON SLOPES

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"'But what's the use of wearing umbrellas round one's knees?'

"'In ordinary rain,' the Professor admitted, 'they would not be of much use. But if ever it rained horizontally, you know, they would be invaluable--simply invaluable.'"

The atmospheric process thus whimsically suggested in Lewis Carroll's "Sylvie and Bruno" is not unknown to science. It often rains horizontally, and very often slopingly, while straight-up-and-down rain is exceptional.

The ordinary rain-gauge has a horizontal opening, and it tells with reasonable accuracy what depth of rain falls on a horizontal surface, whether the rain comes down vertically or otherwise. It does not, however, tell how much falls on the sloping side of a mountain. Gauges have been especially designed for this purpose. An English pattern consists of five funnels, one opening horizontally and four vertically. Each of the latter faces one of the four cardinal points. Thus a sloping rain is resolved into a vertical and a horizontal component. Together they give a cross-section, so to speak, of the rain stream, from which the amount falling on any given slope can be calculated.

Prof. R. Pers, in France, has lately constructed a gauge on this principle, which he calls the "vectopluviometer." It has the shape of a square box opening horizontally, flanked by four boxes with vertical openings. For measuring the rainfall of a small valley or basin he has devised another gauge called the "stereo-pluviometer." This gauge has its opening at the top, but instead of being horizontal the shape of the opening corresponds approximately to that of the valley.

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