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? WHY THE WEATHER ?

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BAROMETRIC WELLS

The device known as the "Dutch weather glass," or, in recent examples, as the "clipper-ship weather glass," illustrates the action of certain wells that act as barometers. This device is a teapot-shaped glass vessel with a long upright spout. The spout is open at the end, but the vessel is otherwise air-tight, and is partly filled with colored water. Changes in atmospheric pressure cause the water to rise and fall in the spout as the mercury does in a barometer, but the directions of movement are the reverse of those of the mercurial column. An increase of barometric pressure causes the water in the spout of the "weather glass" to fall, and a decrease of pressure causes it to rise.

A barometric well communicates with a body of air underground, sealed off by impermeable soil or rock from the atmosphere above it. The well corresponds to the spout of the "weather glass" and the subterranean reservoir to the main receptacle of the latter, and the water in the well rises and falls in the same way with changes of pressure outside. Some of these wells are described by O.E. Meinzer in a recent publication of the U.S. Geological Survey, who says:

"If a well ends in an artesian formation and this formation or the overlying beds have sufficient strength to resist deformation by slight changes in pressure at the surface, the well will act as a barometer. The fluctuations of its water level will have virtually the same range as would be shown by a water barometer, or 13.5 times the range in a mercury barometer. However, for obvious reasons, the movements of the water level in the well will always be in the opposite direction from those in an ordinary mercury barometer."

If the well is covered a strong current of air is, at times, emitted from any small orifice in the cover, and the well is then said to "blow." At other times the air flows in instead of out, and the well is then said to "suck."

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