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The basins are what we call "cyclones." They are shown on the weather chart by a series of isobars surrounding a centre of low pressure. It is worth while distinguishing between the valley and the basin, the V-depression and the cyclone, that is, because they have very different types of weather associated with them.

But our pressure hills, basins, and valleys differ from the corresponding land features in one important characteristic, that of movement. It is true that there is a scriptural reference to "valleys being exalted, and hills being laid low"; but in spite of recent experiences in connection with the Murchison earthquake, the process is usually a slow one. I did once read a story of a vessel which, in order to avoid the hazards of the sea, took to the land, but had the misfortune to strike a land-storm, in which the mountains heaved and sank, and rocks came aboard in quantities. The authenticity of that story has not, however, yet been proved. But there is no doubt that our pressure systems, both anticyclones and depressions, can and do move with considerable rapidity. The average speed, in fact, is something like 600 miles a day. At this time of year it is more than that, which accounts for the rapidity of the weather changes. Three of these V-depressions have passed us this week.

There is, however, fortunately for the forecaster, one important restriction on the movement of pressure systems, and that is that in these latitudes they are practically always moving from west toward east. It may be from some direction rather north or south of west, or even, in the northern portion of our region, from due north, but never from the east. Since the pressure systems carry their weather with them, a knowledge of the rate of movement from the west naturally allows us to anticipate the weather changes they will bring. The value of this principle to the forecaster is, however, limited, because the rate of movement, especially of the depression, is irregular and the shape and the accompanying weather is constantly changing.

Two Important Principles.

BEFORE going any further, I must explain two other important principles which aid the forecaster. These refer to the relationship between wind and pressure, or, what is the same thing, wind and the isobars. The first, which is often referred to as the "law of storms," is that, if you stand with your back to the wind, you will have low pressure on your right and higher on your left. That is in the Southern Hemisphere; the rule is reversed for the Northern Hemisphere. Using, again, the analogy between pressure and altitude, we may say that instead of flowing down a slope, the air flows across it, with the downward side to the right. As a matter of fact, the flow is not quite directly across the slope, but slightly downhill. In other words, the wind blows nearly parallel to the isobars, crossing them from high toward low pressure at a slight angle.

The other principle is that the steeper the slope, the more rapid will be the flow, or the steeper the pressure gradient the stronger the wind. Where the pressure gradient is steep, the isobars will be close together. Therefore, the closer the isobars the stronger the wind. These two principles account for

