

My impression is that earthquakes are the effect of cold and heat, and that they follow long and extended droughts, that they have an Astro-Meteorological feature also, as for instance, when they follow on a solar eclipse as here in August, 1886. There are, I conclude, in such cases, good grounds to account for the then bursting open of the earth all over this State, and the ejection of mud and water, and different colored sands of sulphurous odor with such force as to have dealt destruction to things near by.

BAROMETER AND THERMOMETER.

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From early boyhood I have endeavored to accustom myself to the use of tools. I use both thermometers and barometers, and by their use try to place on paper the results of observations. In so doing, I find it necessary to understand the construction of these instruments.

The barometer was invented in 1643, the thermometer in 1590. In *Vennor's Weather Bulletin* for March, 1882, we find the following instructions in regard to handling a thermometer:—"Place the thermometer in the open air, so situated that it will always be in the shade, and yet have a free circulation of air around it." Correct every word. The next thing to do is to secure a good instrument. Then set to work systematically to learn its use, and have fixed hours to record its readings. The top of the mercury column should be placed as near on a line with the line of vision as possible. Learn to be quick at taking an observation and read to tenths of a degree. By a little practice this can soon be accomplished. By following these instructions and a little study, one may soon be enabled to read pretty nearly the condition of the atmosphere. That is for the dry bulb. Now for the wet one. On the same board, also exposed, is hung another thermometer. The mercurial columns should coincide. The bulb of one is then to be wetted with a camels' hair brush, and the rapid evaporation will cause the wetted bulb to rapidly lower the mercury in that tube. When it has reached its lowest point its record is to be taken. The dry bulb will record the highest, the wet one the lowest, and the difference will be the depression of the column caused by evaporation. By a system of tables the dew point and relative humidity of atmosphere can readily be known. These tables can be found in any good work on Meteorology.

There are other thermometers to which I would call your attention, viz.: "maximum" and "minimum"; one recording the highest, and the other the lowest in the 24 hours.

The "maximum" is usually a mercurial column, sometimes having a little float. Sometimes the tube has a slight stricture, just beyond the bulb, where the expansion of mercury in the bulb causes little globules of mercury, like slight pulsations, to move the column onwards until it has reached its highest point. The stricture prevents its returning. That must be accomplished by twirling the instrument on a brass pivot and so again uniting the column.