

Prediction or Prophecy.

So it is all around us. *Prediction* (in the sense we look at it) renders its invaluable aid more ways than can easily be enumerated. If we call it "prophecy" the meaning will be pretty much the same; but it is better to say *prediction*, as less likely to raise objection.—*Chambers*.

Our attempts at the weather, then, let it be clearly understood, comes under this last mentioned heading. People who continually talk about "prophecy" are not able to define the meaning of the word; it is to them a good word to use on all occasions when they attempt to criticize a subject they are not familiar with.

Let it be clearly understood, then, we do not and never have attempted "prophecy" but "prediction" or prognostication.

It is deserving of note that ministers of religion generally manifest much distrust of this word *prediction*, conscientiously regarding it as a bold interference with the mysterious will and decrees of Providence; and their scruples are worthy of respectful attention. Yet the distrust generally vanishes when these excellent persons take up their wonted position of affairs of every day life. If a clergyman wishes to shield his dear ones, he insures his life; and this involves as direct a prediction as anything connected with weather phenomena.—*Chambers*

Keep your Weather Eye Open.

There are no direct or suddenly appearing signs whereby approaching weather may be foretold for any length of time in advance. There is, however, a method by which this may be accomplished without the aid of any unusual or particularly striking indications. "A perverse and evil generation seeketh after a sign, but there shall no sign be given them," &c.

Earthquakes, comets, eclipses, the singular formation of clouds, coloured rain or snow-falls, coloured mists and fogs, have each and all been considered by "the people" as the forerunners of some terrible calamity, such as an epidemic, a famine or war. The superstitions of the pastages still linger in the minds of the mixed populations of the present day—with this difference, that the superstition is clothed in the garments of science or an attempt at science. Superstition reigns supreme where ignorance and darkness abound. Where there is education and general enlightenment, superstition vanishes. Again, there are classes of the community wherein both enlightenment and superstition are combined; enlightenment as regards the ordinary business affairs, and of the daily routine of duties, and superstition strong as touching their religious and spiritual relationships. The less the knowledge on any particular subject or department, the more room is there for ignorant surmise and superstition in regard to it; and in just such a relationship stands "the weather" with "the people."

Passing by then, as ridiculous in the extreme all such signs in the heavens and on the earth (as "the people" have attempted to interpret them) in connection with the weather of an

approaching period or season, we would merely state, that, to every intelligent and thinking mind but one method can be regarded as likely to lead to any tangible results, and this combines, and is almost sufficiently explained by the two words—OBSERVATION and COMPARISON.

The former of these important headings applies to the past and present; the latter to the past mainly. OBSERVATION enables us to fix upon the averages of past years as touching snow and rain fall, warmth and cold, drought and precipitation. COMPARISON brings about an arrangement of these averages into couplets, triads or larger groups of like character, and points to the probabilities of the recurrence of one or more of these at some future time.

Experientia docet. But the mind of the observer has first to be fitted for such teaching. Hundreds of observers from conclusion form the results of their observations—but how few prove correct in weather prognostication.

Prognostications of the Weather.

(Continued from last number.)

III.—PROGNOSTICATIONS BY THE HYGROMETER.

The principle according to which the mass of Hygrometers have been constructed is, that a certain degree of affinity between moisture and air, and moisture and many other substances exists. And that one substance attracts another for which it has an affinity, with proportionally less force according as it is more nearly saturated with it. Thus, a hair or a piece of cat-gut, or pack thread, may be used for hygrometric purposes. Each of these substances, as well as most others, exert a certain degree of attraction for moisture.

Accordingly, as the air gets more nearly saturated and exerts a proportionally less attractive force for humidity, these substances absorb a greater amount of moisture, and in doing so expand in thickness, but diminish in length. On the other hand, when the air becomes drier than usual, and exerts a proportionally stronger attraction for moisture, a portion of humidity is abstracted from these bodies; and this, while it diminishes their thickness, increasing their length. Hence the length of such or smaller substances filled up and adjusted to a scale of equal parts, according to various mechanical contrivances, has been employed as a measure of the dryness and dampness of the atmosphere.

The different degrees of rapidity with which moisture evaporates, and reduces the temperature of the evaporating surface, according to the state of the atmosphere with regard to humidity, is another principle upon which hygrometers have been constructed. But as we do not mean to describe meteorological instruments generally, we need not further enlarge upon this point.

Our object in making remarks upon hygrometric instruments is, that of the principle of their construction be understood, a great mass of weather indications held in esteem by the more ignorant part of the population, and which depend upon the same principles, become intelligible.

Hygrometric, by indicating the existing dryness or dampness of the atmosphere, give information (though not always accurately, whether the wind be in a direction favorable to the formation, or the dissolution of clouds; consequently, afford a means by which wet or dry weather may, to a limited extent be prognosticated. And supposing the hygrometer to indicate great atmospheric dryness, even though the wind should shift to a warm and rainy direction, it may take one, two, or perhaps three days, before the reduction of the temperature of the air consequent upon its transportation to a colder climate, causes it to become sufficiently damp, and before enough of moisture be precipitated into the form of clouds, to occasion rain.

The great mass of what are called signs of fair, or of wet weather, depend upon hygrometric principles. Thus, a difficulty of opening windows, window-shutters, and doors, and of drawing out wooden pegs, have been considered signs of wet weather. The reason is, wood, like all other hygrometric substances, absorbs moisture, and expands in bulk as the air becomes damper.

The peculiar cries and instructive movements of birds, beasts, insects and reptiles, which have been considered indications of wet or dry weather, all result from agreeable or disagreeable sensations by which such animals are affected, when the state of the atmosphere is hygrometrically dry or damp. In reality, the animals themselves know nothing of the cause of the agreeable or disagreeable sensations by which they are affected. And though they manifest those sensations by peculiar cries and instinctive movements, they possess no foreknowledge of the weather.

In like manner, persons subject to rheumatism and other complaints, become affected probably upon hygrometric principles with their constitutional diseases, when the atmosphere becomes damp; and feel relieved upon the return of dry weather. Such persons may be considered living hygrometers.

Indeed, when it is considered that perspiration is more or less obstructed by increased dampness, and that the feathers of birds, and the hair covering the skins of beasts, as well as the muscular fibres of animals in general, are all better or worse hygrometers; it is no wonder that variations in the dryness or dampness of the atmosphere should give rise to agreeable or disagreeable sensations. Nevertheless, as properly constructed hygrometric instruments afford comparatively, much more accurate means of ascertaining the different degrees of atmospheric dryness and dampness; and all the subsequently mentioned indications of wet or dry weather, are merely less perfect and less precise methods of giving us similar information, they need be no longer regarded as weather prognosticators.

It may be remarked, however, that as hygrometers only give information regarding the dryness and dampness of the lower atmospheric strata by which they are immediately surrounded, and which are affected by all the vicissitudes of temperature which occur dur-