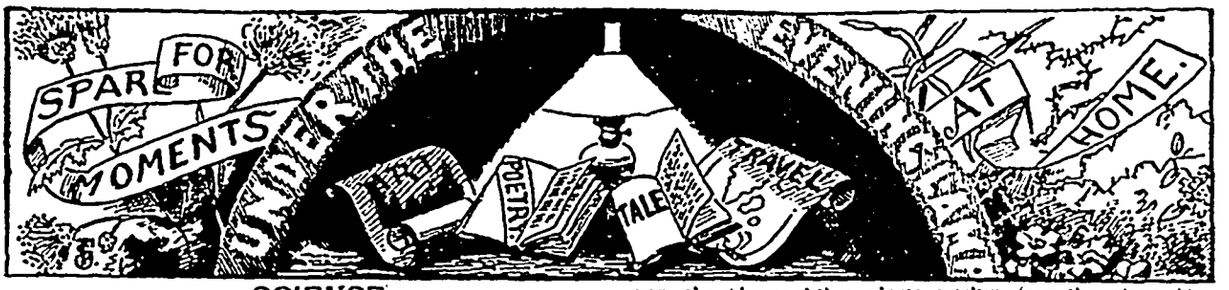

SCIENCE.

THE WEATHER-PLANT.

J F Nowack

THE theory that the Sun is an electric body whose influence upon the other bodies of the Solar System varies with the intensity of its action, is constantly receiving fresh confirmation The unvarying regularity with which terrestrial phenomena


Fig 1


Fig 2

respond to the Sun's activity proves the harmony of the universe Far as the Earth is removed from the Sun, and insignificant as it is in comparison, there is abundant observation to confirm the view that very little occurs in the great center of our system which is not communicated to every member It is, especially, the enormous electric force of the Sun which makes itself felt in the Earth's atmosphere and even to the center of the Earth and there is


Fig 3.


Fig. 4.

no doubt that the rotation of the Sun on its axis affects, with periodic regularity, these electric and magnetic conditions

It is only natural that some of the many forms of organic life should be so sensitive that they would feel the approach of electric changes, and indicate them by some perceptible manifestation There are many plants which exhibit an exceptional sensitiveness to such electric changes, and one of the most sensi-


Fig 5.


Fig. 6

tive of these is the *Abrus precatorius L.*, known in Germany as "*Paternostererbse*" Its sensitiveness has long been known, but the fact of its being a valuable aid in forecasting weather-conditions, because of its abnormal sensitiveness to electric and magnetic changes, was not verified prior to my experiments in England, extending over a period of seven years

Many plants as is well known, respond to changes in the

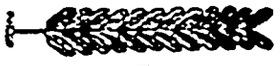
Fig 7


Fig 8

weather, and some of them indicate approaching changes, but since their sensitiveness exhibits itself, for the most part, as a reaction to the direct influence of light, warmth, moisture, or other conditions, they cannot possibly afford reliable prognostications for more than twelve hours in advance, there is, hence, a general indisposition to rely on sensitive plants as weather prophets. This mistrust naturally extended to two insignificant

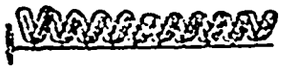
Fig 9


Fig 10

specimens of so-called "weather plants" exhibited in Vienna, in 1881 by the Imperial Horticultural Society, and of which it was said that they indicated weather-changes forty-eight to seventy-two hours in advance The mistrust was further confirmed by the general sickliness of these plants, resulting from the unfavorable conditions and neglect to which they were exposed Nevertheless, it was the expressed opinion of more than one scientist, that a plant so sensitive to electric changes as the *Abrus precatorius*


Fig 1


Fig 12

was not only of great scientific interest, but, under careful treatment, might prove of great value as an indicator of coming changes, because the plant responds to electric conditions much more promptly than barometers or aneroids I selected the British Isles as the place for the prosecution of my investigations, because these Isles are in the line of the great barometric changes which pass over the continent of Europe from the North-west and are subject to the most sudden and violent of such alternations


Fig 13.

This plant came under my observation first in my travels in Holland I obtained some specimens kept them under glass and soon observed a very characteristic change in the arrangement of the leaflets (see Fig. 1), which appeared to indicate sickness some of the leaflets began to roll up on themselves (Fig 2) About three hours later, to my astonishment, the plants had recovered their normal condition The day was cloudless but three days later at the same hour, there occurred a violent thunder storm covering a large area, and lasting three hours.

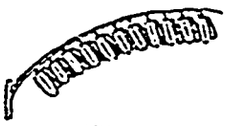
Fig 14.

Involuntarily the idea suggested itself that the changes I had observed in my plants had been caused by the electrical atmospheric conditions which heralded the approaching storm, and, after long-continued observation, I was confirmed in the view that the changes in the arrangement of the leaflets were due to their sensitiveness to such variant electrical conditions Whenever I saw the leaflets roll back upon themselves (see Fig 2) I regarded it as a sure indication that a storm would follow in from forty-eight to seventy-two hours, the extent and violence of which might be measured, in anticipation, by the proportion of leaflets which assumed the folded shape These indications were found so invariable reliable that, during the second year of my experiments, a farmer, guided by them, employed all his available force in harvesting his clover in glorious weather, with the barometer standing high and scarcely was the last load housed when punctually, at the forty-eighth hour after the prediction, the storm broke, with almost unprecedented fury The accompanying cuts show the characteristic changes exhibited by the leaflets under all the varying electrical conditions of the atmosphere Close observation only is necessary to determine the weather-changes which the special electrical conditions portend Fig 1 indicates clear weather or thunder clouds, Fig 2 portends a heavy thunder-storm Fig 3, clearing Fig 4 changeable calm Fig 5, changeable, with rising wind, Fig 6, windy Fig 7, strong wind, Fig 8, hurricane, Fig 9 cloudless, Fig 10, cloudless with wind, Fig 11, rain Fig 12, normal position Fig 13, barometric minimum, Fig 14, decreasing pressure, Fig 15, increasing pressure, Fig 16, barometric maximum. *Die Natur der Wetter, Vienna*

Translated and condensed for THE LITERARY DIGEST


Fig 17

A New Thermometer.—Messrs Ralfe and Chorley, says *Nature*, April 6, have devised a high temperature thermometer in which mercury is replaced by an alloy of potassium and sodium This alloy—two liquid metals is itself liquid between −8 and +300° C. The graduations begin at 300°, and the space above the alloy is filled with pure nitrogen at such a pressure that when the glass begins to soften from heat, the interior pressure shall be equal to the atmospheric