



Christmas Thorn

THERE is an old legend to the effect that after the Crucifixion, Joseph of Arimathea left Judea, bent on going as far as possible from that tragic land. Landing in Britain, then the limit of the known world, he planted his wanderer's staff in the ground at the place now known as Glastonbury. The staff grew and put forth green leaves, and flowers that opened on Christmas day.

One plant that is common in Palestine and is now widely cultivated is pointed out as the thorny staff of Joseph. This is the shrub known as *Euphorbia splendens*, a relative (though it does not look it) of the poinsettia which is now another favorite Christmas ornament. Like all of its kind, it has a bitter, milky juice, and like most other euphorbias it has a four-angled stem and relatively few leaves.

The old legend has at least this element of probability in it, that a stem of this euphorbia could be cut and carried about apparently dried for many months without losing its life. Set in the soil and let alone, it would respond to the moisture by striking root and eventually producing leaves and branches. It might even break into bloom on Christmas day, in the mild climate of southern England.

Even with us, in our more severe continental climate, this shrub is fairly hardy. With a little protection in the North, and none at all in the South, it will get along outdoors. In the greenhouse, or as a potted plant in the window, it thrives mightily, and will produce a profusion of coral-colored, odd-shaped inflorescences to reward the housewife or gardener who is willing to give it room.

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GEOLOGY

Geologists Attempt to Check "Ups and Downs" of Sea Level

EVIDENCES for and against changes in sea level on the Atlantic coast were discussed by geologists meeting with the American Association for the Advancement of Science.

The necessity for determining just where the sea level is, was stressed by H. A. Marmer of the U. S. Coast and Godetic Survey. We are accustomed to talk of "sea level" as though it were a fixed and unchanging thing; but according to the speaker it may change as much as a foot in a day, while within a year the values of sea level from two different days may differ by as much as five feet. Even yearly values of sea level may show differences of a quarter of a foot or more.

The only way of obtaining an accurate determination of mean sea level is by long-continued series of observations. The longer the period, the more accurate the determination. In general it may be taken that when corrected by suitable simultaneous observations, a month of observations will give mean

sea level within a tenth of a foot, a year will give it within a twentieth of a foot, while four years will give it within a fiftieth of a foot, Mr. Marmer said.

Charles W. Townsend, of Ipswich, Mass., presented data that indicate a genuine subsidence of the coast in the region he has been studying. Stumps and logs of forest trees now occur in a salt marsh near Ipswich, he said, and there is a tradition of a forest growth there over a hundred years ago. There are many places on the New England coast, he continued, where peat and stump layers are found below high tide mark, and sometimes below low water mark. Borings in the salt-hay zone show it to extend to twelve feet below the surface, while the range of the living zone is only about two feet. Experiments both in this country and in England have shown the upbuilding of shore marshes at rates of from one to two feet a century.

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METEOROLOGY

Changes of Humidity With Thunderstorms Are Explained

THUNDERSTORMS are commonly accompanied by changes in atmospheric humidity, but the changes do not always occur in the same direction. Sometimes the air becomes moister, sometimes less moist. To find an explanation for this apparent anomaly, Prof. W. J. Humphreys of the U. S. Weather Bureau examined records of a large number of thunderstorms. He reported his results at the meeting of the American Association for the Advancement of Science.

Thunderstorms are of two general types, "heat thunderstorms" and "cold front" storms. The first type arises from the overturn of large masses of heated air, the second from the impact of an oncoming mass of migrating colder air against a body of warmer air. Heat thunderstorms, Prof. Humphreys found,

are accompanied by an increase in atmospheric humidity, while the humidity falls when the cold-front storm comes on.

This is, Prof. Humphreys explained, about what should be expected. The heat storm is started in a mass of air which contains the same amount of water vapor all the way through, and the falling rain increases it by evaporating part of itself as it falls. The cold-front storm, on the contrary, is caused by cold, dry air moving into a region of warm, moist air, and the aridity of the cold air is not offset by the evaporation from the falling rain.

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A gasoline substitute tried with some success in Ireland is creosote oil, which is a waste product of the gas industry.