

A careful consideration of the different varieties of diseases will, perhaps, warrant the following classification:—

1.—Those produced by changes in external conditions of life, such as a redundancy or deficiency of the ingredients of the soil, of light, of heat, air and moisture.

2.—Those produced by poisonous agencies, as poisonous gases miasmata in the air, or by poison in the soil.

3.—Those arising from the growth of parasitic plants, such as the various fungi.

4.—Such as are caused by mechanical wounds, and by the attacks of insects.

The first consideration in the healthy growth of a plant is a temperature suited to its nature. Although some plants require high temperature and some low, yet there are certain extremes, beyond which no plant can grow and maintain its healthy condition. When the temperature is maintained at a higher degree than is natural, the plant is excited to undue activity of growth; but this is attended with enfeebled condition, often seen in badly managed green-houses and hot-beds of the horticulturist.

A diminished temperature on the other hand retards the growth, and leads to the suspension of vital action in proportion to its reduction, and it is probable that at freezing point all action ceases; yet in this regard there is a great difference among plants, as instanced by mosses, lichens, and chickweed, growing at a temperature very little above freezing point. Also, some plants will endure, uninjured, a great depression of temperature, while others will be destroyed by the slightest approach of frost.

The influence excreted by the soil upon the healthiness or unhealthiness of plants, is an important subject of enquiry. A redundancy or paucity of some particular ingredients produces its effects upon plant life; and Liebig has pointed out how chemistry may be brought to our assistance in solving such a problem. As all the inorganic elements found in a plant and its fruit must have been derived from the soil in which it grew, he suggests that the ashes of the plant would show exactly what is needed, and then an examination of the soil would inform us whether it contains all the necessary elements in the right proportion. And from this proposition has arisen the

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