

EFFECTS OF THE SCION UPON THE STOCK.

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Much has been written about the influence of the scion upon the stock, and *vice versa*, but comparatively little has been added to our knowledge of the controlling cause, because the experiments and observations have been so variable and conflicting. I have been grafting the weeping varieties of *Abutilons* upon the strong upright growing sorts, the object in view was to obtain miniature weeping trees for the greenhouse, which are novel and pretty. *Abutilon Mesopotamicum Variegatum*, which is of a slender weeping habit, grafted about three feet high upon any upright growing variety, makes one of the most beautiful weeping trees. In the south, where it would stand the winter, it would be a decided acquisition. Southern nurserymen might work it up, and give their patrons something new and beautiful. From these experiments in grafting, some curious variations have been produced. A *Mesopotamicum Variegatum* was grafted upon a *Duc de Malakoff*. Scarcely had the union taken place, when I observed faint markings of a yellowish appearance upon the leaves of the stock below the graft, which soon became as beautiful and distinct as those of a Thompsoni. The experiment was repeated with the same happy results. In one case the leaves became margined with white, but it soon disappeared, the leaves returning to their original color, while the mottled leaves retained their variation. In my next experiment I reversed the operation. I grafted a Santana upon a Thompsoni, but the stock had no effect upon the scion. One half of the plant is variegated, the other half green. These two varieties have been growing together for two years with no perceptible change. *Duc de Malakoff*, having deeply cleft or parted leaves, I was anxious to propagate it with those beautiful markings, it being a fine contrast to A. Thompsoni; but after the cuttings were rooted and growing freely, they always went back to their normal condition, showing it had the power to repel the disease which had been communicated to its cells. No doubt many of the variegated leaved plants that florists cultivate owe their beauty to some species of disease. From these observations it appears that the downward movement of the sap from the scion assumed controlling power, and that the scion has great influence upon the stock; no doubt the stock has a similar influence upon the scion, but not so much as many believe.