

BRIEFER ARTICLES.

VERNATION OF CARYA.

THE bud of our common shellbark hickory, known in New England as walnut, is as beautiful as a flower. Its vernalion and evolution are most interesting.



Before it opens, the very large bud consists of a series of imbricated scales, coarse and papery without, but as they are successively removed growing more delicate until finally they become of satiny sheen and texture. These inner scales are, moreover, pubescent, with close, silky

hairs. The shape of the scales changes rapidly with the centripetal advance. The outer and smaller ones are nearly orbicular. From this shape they broaden into ovate, and then into oblanceolate. It will happen in some buds, not in all, that scales will occur showing a retuse apex; then some more deeply emarginate and much narrower. Lastly, there will be one showing in the apical cleft a trace of true pinnation in the leaves.

The foliage proper consists of leaves, varying in number, standing erect upon the petioles and convolutely packed. Each of the leaflets is involutely rolled, and all are closely appressed. A sticky and sweetly odorous exudation helps to guard the leaves.

In full development the inner scales, several inches in length, become reflexed, and, with their beautiful salmon color, passing into green, or even of a rich claret red, resemble the petals of some gorgeous flower.—WILLIAM WHITMAN BAILEY, *Brown University*.

ABNORMAL LEAVES AND FLOWERS.

MR. FOERSTE'S interesting article on "Curious leaves" in the June GAZETTE induces me to place on record a couple of instances which I



FIG. 1.

have lately observed here in Mesilla. One day Professor E. O. Wooton brought in a handful of *Clematis ligusticifolia*, which was placed in a bowl for ornament. Looking over it, I was surprised to see that many of the flowers had two of the petaloid sepals coalesced for more than half their length (fig. 1, from a dried flower).



FIG. 2.

At about the same time, raising some *Solanum elaeagnifolium* from seed, I found a seedling in which the cotyledons were coalesced for over half their length (fig. 2), so that the plant was no longer dicotyledonous.

These examples, as also, perhaps, Mr. Foerste's figs. 1 and 2, are the result of abnormal coalescence. In the case of Mr. Foerste's elm leaves the interpretation is more obscure; but at all events, they have nothing to do with the other cases figured (figs. 3 and 4) by Mr. Foerste, in which we have simply an arrest of the central axis.

There is a cottonwood (*Populus Fremontii*) here in Mesilla which



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