crossed pod were also decidedly thicker and stronger than those of the pods of the mother-plant, but this may possibly have been an accidental circumstance, for I know not how far their thickness is a variable character in the Tall Sugar-pea.

The peas of the Tall Sugar-pea, when dry, are pale greenish-brown, thickly covered with dots of dark purple so minute as to be visible only through a lens, and Mr. Laxton has never seen or heard of this variety producing a purple pea; but in the crossed pod one of the peas was of a uniform beautiful violet-purple tint, and a second was irregularly clouded with pale purple. The colour lies in the outer of the two coats which surround the pea. As the peas of the purple-podded variety when dry are of a pale greenish-buff, it would at first appear that this remarkable change of colour in the peas in the crossed pod could not have been caused by the direct action of the pollen of the purple-pod: but when we bear in mind that this latter variety has purple flowers, purple marks on its stipules, and purple pods; and that the Tall Sugar-pea likewise has purple flowers and stipules, and microscopically minute purple dots on the peas, we can hardly doubt that the tendency to the production of purple in both parents has in combination modified the colour of the peas in the crossed pod. After having examined these specimens, I crossed the same two varieties, and the peas in one pod but not the pods themselves, were clouded and tinted with purplish-red in a much more conspicuous manner than the peas in the uncrossed pods produced at the same time by the same plants. I may notice as a caution that Mr. Laxton sent me various other crossed peas slightly, or even greatly, modified in colour; but the change in these cases was due, as had been suspected by Mr. Laxton, to the altered colour of the cotyledons, seen through the transparent coats of the peas; and as the cotyledons are parts of the embryo, these cases are not in any way remarkable.

Turning now to the genus Matthiola. The pollen of one kind of stock sometimes affects the colour of the seeds of another kind, used as the mother-plant. I give the following case the more readily, as Gärtner doubted similar statements previously made with respect to the stock by other observers. A well-known horticulturist, Major Trevor Clarke, informs me[131] that the seeds of the large red-flowered *biennial* stock, *Matthiola annua* (*Cocardeau* of the French), are light brown, and those of the purple branching Queen stock (*M. incana*) are violet-black; and he found that, when flowers of the red stock were fertilised by pollen from the purple stock, they yielded about fifty per cent. of *black* seeds. He sent me four pods from a red flowered plant, two of which had been fertilised by their own pollen, and they included pale brown seed; and two which had been crossed by pollen from the purple kind, and they included seeds all deeply tinged with black. These latter seeds yielded

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[131] *See* also a paper by this observer, read before the International Hort. and Bot. Congress of London, 1866.