

and in other cases all those down one side of the spike, with pollen of other varieties, and the remaining flowers with their own pollen. I saw these plants when the capsules were nearly mature, and their curious arrangement at once brought full conviction to the mind that an immense advantage had been derived from crossing these hybrids.

Lastly, I have heard from Dr. E. Bornet, of Antibes, who has made numerous experiments in crossing the species of *Cistus*, but has not yet published the results, that, when any of these hybrids are fertile, they may be said to be, in regard to function, dioecious; "for the flowers are always sterile when the pistil is fertilised by pollen taken from the same flower or from flowers on the same plant. But they are often fertile if pollen be employed from a distinct individual of the same hybrid nature, or from a hybrid made by a reciprocal cross."

*Conclusion.*—That plants should be self-sterile, although both sexual elements are in a fit state for reproduction, appears at first sight opposed to all analogy. With respect to the species, all the individuals of which are in this state, although living under their natural conditions, we may conclude that their self-sterility has been acquired for the sake of effectually preventing self-fertilisation. The case is closely analogous with that of dimorphic and trimorphic or heterostyled plants, which can be fully fertilised only by plants belonging to a different form, and not, as in the foregoing cases, indifferently by any other individual of the species. Some of these heterostyled plants are completely sterile with pollen taken from the same plant or from the same form. With respect to species living under their natural conditions, of which only certain individuals are self-sterile (as with *Reseda lutea*), it is probable that these have been rendered self-sterile to ensure occasional cross-fertilisation, whilst other individuals have remained self-fertile to ensure the propagation of the species. The case seems to be parallel with that of plants which produce, as Hermann Müller has discovered, two forms—one bearing more conspicuous flowers with their structure adapted for cross-fertilisation by insects, and the other form with less conspicuous flowers adapted for self-fertilisation. The self-sterility, however, of some of the foregoing plants is incidental on the conditions to which they have been subjected, as with the *Eschscholtzia*, the *Verbascum phœ-*