

my being found unequal to the difficulties of the case. I am however, giving you speculations which have occasionally occupied me during a number of years and which are founded on cautious and repeated observations of facts, not without study of the judgments pronounced by writers of authority which I desire to treat with respect whilst I freely examine their merits.

Our first inquiry relates to the real nature of the order of the parts of the flower in a tribe of plants well known as *cruciform flowers*, and familiar from the wall-flower, stock, cabbage, and several common weeds constituting the order *Brassicaceae* of Lindley. Plants of this order are distinguished by a very peculiarly constructed seed-vessel divided into two cells by a partition which is not easily brought into analogy with anything in the ordinary constitution of seed-vessels, and whilst the calyx and corolla consist of four parts each in the usual relative positions, the number of parts in the Gynoeceum or ovary, is *apparently* only two, and the androeceum shows six stamens in two pairs with a single lower one at each end. Now it is well known to all who have attended to the subject, that every flower consists of circles of leafy organs variously modified in their development, the inner circle consisting of what are now called carpels, of which the apex is the stigma, and the margin usually at least bears the ovules—next follows the circle of stamens, often indeed several circles, each stamen consisting of a filament corresponding to the mid rib of the leaf, and an anther most commonly of two cells formed from its expansion, the parenchyma of one surface being converted into pollen grains. Outside the stamens occur the petals, or inner enveloping circle, and outside all the calyx, consisting of pieces called sepals. Now it is the general rule that these circles alternate one with the other in regular order, the inner circle being indeed peculiarly liable to have its number of parts reduced by pressure, and the others exhibiting occasional anomalies from adherence, irregularity and suppression or abortion, either of a whole circle or some part of it. Every flower is formed on a certain definite plan as to the number of circles and of parts contained in each, and as to their relative position, and when there is any deviation from equal numbers and alternate arrangement we always expect to be able to offer some explanation which shall shew it to be a case naturally arising under the general law. Although five is the natural number of parts in each circle in Exogenous plants, it is by no means unusual to meet