

*synpetalous*, and if you please, *synandrous*, *syncarpellous*, whilst separation may be expressed by *aposepalous*, *apopetalous*, &c. Adherence arises from pressure of the circles on each other, or expansion of the torus or receptacle, so as to adhere sometimes outward on the lower part of the calyx, sometimes inward on the combined carpels, sometimes in connection with both, so as to place the fruit below the other circles of the flower and produce the epigynose structure—it readily explains many phenomena of common occurrence in flowers.

Regularity and irregularity of flowers depend entirely on the equal or unequal distribution of nutriment to the parts of the successive circles, the causes of which differences are often undiscernible, though the fact is certain. Sometimes the more developed parts are in all the circles on the same side of the flower; in other cases the opposite sides are enlarged alternately. In other instances the irregularity is produced by an opposite pair being enlarged in each circle (where the whole number of parts is even), or by this arrangement being alternated in the successive circles. It must be evident how many modifications of flowers are explained by these considerations.

The primary law respecting number is found in the tendency to the number three in the circles of mono-cotyledonous plants, and to five in those of dicotyledonous plants. The first is an ultimate law of the organization of plants abundantly established by fact, but hardly capable of being connected, so far as we can at present see, with anything else we know of their nature. It may be doubted whether the second is not connected with the first in as much as one cotyledon or primordial leaf is found to imply a circle of three parts, two would therefore be expected to produce six, but this supposes the combination into one of two circles of three. Now we have other examples of this sort of combination of circles of parts exhibited to us by certain anomalous flowers, in sufficient number and variety of cases to suggest a sort of rule as to what is likely to happen, and from them we infer that in ordinary cases one part would be lost in the union. That under considerable pressure a part would be lost at each point of junction or two in the combined circle, whilst very close position, with circumstances unfavourable to development, such as give us occasional examples of two and one part in a monocotyledonous plant might occasion any of the lower numbers to occur in a dicotyledon. I found the explanation here given of the prevailing number of dicotyledonous plants on the careful examination of a considerable number of those monstrosities, not