

Museum of the College of Surgeons, and cannot see that it has even a title to generic distinction. Naturalists seem at all times to have been prone to assign generic rank to whatever was mysterious or difficult to classify, and I can in no other way account for this species being made a genus.

It will be seen that my endeavour has been rather to ascertain and demonstrate whatever natural degrees of relationship exist among the species of this family, than to compose a system for mere convenience of reference; but so far from that being any hindrance to the practical adoption of my views, I think that in arranging the specimens in a museum, or the materials of a work, it will generally be found more convenient to be able to dispose the members of a natural group in whatever order may suit our immediate object, than to be compelled to place them in accordance with the stringent laws of a purely analytical method; and that for the purpose of referring a new species to its true location, when we have not the means of observing all characters that may be necessary for the determination of a series of natural affinities, the external characters which can be assigned to a group when its limits are well made out, will be found sufficient; while on the other hand, not only the external characters, but sometimes even those of anatomical structure, will, in a group which has not been previously subjected to a full and careful examination, be as the letters of an unknown language, often leading into error and confusion.

With regard to nomenclature, I have used such names as I find most generally adopted by later naturalists who have given attention to this subject, generally taking, where I had a choice, such as appeared to have been of earliest date; and as I only enumerate such species as I have seen, I must not be considered, although I have omitted a few which appear to be varieties, as rejecting all that are left out.

BOTANICAL SOCIETY OF EDINBURGH.

Thursday, 10th of July, 1851.

Dr. Balfour exhibited specimens of the following monstrosities:—

1. An *Arum* with a double spathe, the second spathe being alternate with the first. The spadix at the lower end showed the appearance of the adhesion of a second spadix. This specimen was from the garden of Dr. Neill, Cannonmills Cottage.

2. A monstrosity of *Antirrhinum majus*, presenting a regular flower formed by five personate petals with gibbous bases.

3. Monstrosity of white *Digitalis* showing the terminal floret composed of several united, and expanding before the other flowers in the raceme. There was thus a mixed inflorescence, partly definite and partly indefinite.

A letter was read from Mr. Wyville Thomson, Lecturer on Botany, King's College, Aberdeen, in which he states:—"A few days ago, walking along Dee-side about seven miles above Aberdeen, I was much surprised to see *Prunus spinosa* covered with large handsome fruit

of a bright red colour, a pod very like the capsicum. The sloe-trees grow along the river-side, and are of that half-cultivated variety which attains the height of 20 or 30 feet, is straight and wants spines. The trees were closely tangled along the river-side for the distance of about 100 yards, all covered with this strange monstrosity. On examining the pods a little more closely they proved to be carpels disdaining their usual tardy progress into a drupe, and hurrying into a pseudo-legume. On cutting them open they exposed usually one, sometimes two abortive ovules, attached to a sutural placenta.

"A little further on I saw several trees of *Prunus Padus*, covered with long clusters of bright green unripe pods of a similar kind. We well know that the *Rosaceæ* are very prone to eccentricity with regard to their carpels, and to see one tree in that condition would not surprise me, but why all the individuals of *Prunus spinosa* in that neighbourhood should have gone wrong, and especially why the other species should have joined them, I am at a loss to conjecture."

Dr. Balfour suggested that these teratological appearances might be caused by the attacks of insects, and that they pointed out the connection between *Rosaceæ* and *Leguminosæ*, two orders which are chiefly distinguished by the position of the odd sepal.

A paper was read, "On the Plant Morphologically considered," by the Rev. Dr. M'Cosh. In this paper the author endeavours to show that the plant consists of three homotypal parts, the root and its subdivisions, the stem and its branches, and the leaf, with its veins. He dwelt in an especial manner on the venation of the leaf, which he considers as representing the mode in which the tree ramifies, as well as the angles at which the branches are given off. In the case of woody plants he conceived that the petiole of the leaf may in such cases represent the trunk. Thus the Beech, the Portugal Laurel, &c., which have little or no petiole, send off branches from near the root, while the Sycamore and Cherry, which have distinct petioles, have long unbranched trunks. He thought that this did not apply, however, to herbaceous plants, and he was not prepared to carry out his views in the case of Palms and other woody Monocotyledones, which he had not had an opportunity of examining in a normal state. The angles, also, at which the veins are given off, he considered as representing generally the angles of the branches.

Prof. Balfour was not prepared to enter into Dr. M'Cosh's views fully, although there were many plausible statements made by him. Dr. M'Cosh did not appear to apply his views on the same principle throughout. There could be no doubt that there were normal angles at which branches and veins were given off, but it was not an easy matter to get what might be called typical forms. He hoped that Dr. M'Cosh's remarks would lead to an investigation of the subject.

Prof. Fleming remarked that he was ill qualified to offer any remarks on the interesting paper which had been read, because he had long been in the habit of restraining his *imagination* in all scientific inquiries. This paper he considered an imaginative one—a hunting after resemblances and overlooking differences, so as to give results by no means to be depended upon. The leaves were organs differing

in form, structure, and functions, from the stem and branches, and could not, homologically, be compared with them. The nerves of the leaves did not all diverge at the same angle, neither did the branches. These last were exposed to various influences during the life of a tree, and in consequence diverged from the stem at various angles in the different periods of growth. It was therefore a dream of the imagination to hope to determine a typical angle of divergence, when the plant was endowed with a considerable range of variation to fit it for its place in the œconomy of nature.

Prof. Goodsir had listened to Dr. M'Cosh's paper with much interest, on two accounts: first, because it appeared to him that its author had, in endeavouring to reach one of the objects he had in view, embodied another attempt to investigate the laws of organic form by that precise or geometrical method, which can alone ultimately elevate natural history to the platform of the perfect sciences; and secondly, because, although he could not admit all the conclusions at which its learned author had arrived, he yet believed the paper to involve a great truth. If he might be allowed to use the expression in reference to a plant, the specific physiognomy of a tree, as a mass, appeared to him to depend on the particular bulk, form, and grouping of its constituent masses. Now, if the form and grouping does not depend upon, it certainly involves, the mode of branching peculiar to the species. Dr. M'Cosh had restricted himself to the investigation of the law which regulated the latter; but he had, and would meet with, that apparently at present insuperable difficulty in all such researches, viz. the variation within certain limits of the form of parts, or of the whole of an organized body, according to the particular conditions under which that part or that individual has been developed. Prof. Goodsir suggested that Dr. M'Cosh might be more successful if he would limit his inquiry to the law of ramification of a single judiciously-selected species; and would endeavour to grow that species under such invariable conditions as might afford an approach at least to the typical form of the species. He also believed that before the law which regulates the arrangement of the primary and secondary ramifications of a leaf can be ascertained, attention must be directed to the law of form in the parenchyma itself.

MISCELLANEOUS.

On Parasitism. By M. LÉON DUFOUR.

PARASITISM seems to be a law of nature, so generally does it prevail throughout the living world. This existence imposed in the creation upon other existences is at once a law of antagonism, of repression, and of guarantee for the maintenance of the harmony of nature. The attentive study of the articulated animals, and particularly of insects, presents to us the prodigies of parasitism in profusion, whether the lens examines the integument of the animals, or the science of the scalpel steps in to sound the depths of their organism.

I have already had the honour to present to the Academy the



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