

ON  
THE CLASSIFICATION OF PLANTS,  
AS INTRODUCTORY TO  
*A KNOWLEDGE OF BOTANY.*

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WHEN we consider the infinite number of vegetables that cover and adorn the face of the earth, to every one of which is assigned by Providence its particular use in the oeconomy of nature, we must acknowledge that an acquaintance therewith must be highly beneficial to every one, be he either destined to till the land or manufacture the produce thereof. To the diffusion of this science the farmer and grazier are indebted for the great improvement in all our various crops and breeds of cattle within the present age. A knowledge of botany to the Physician is highly essential as a branch of his profession; and it ought to be kept in view that, although the *Materia Medica* of the present day does not contain that stock of indigenous vegetables which were formerly prescribed, yet some of the wisest of our forefathers were of opinion that the plants of every country and climate afforded medicine sufficient for the maladies thereof: and even now, some of the most active and powerful drugs are preparations from our common plants. Neither can he be held excused for his want of a scientific knowledge of such as are poisonous, for this is a duty the public has a just right to demand of him. When we consider the laborious duties of the student in medicine, who is compelled for hours to breathe "the putrid air of the dissecting-room, or inhale

the noxious effluvia of the laboratory," which are practices in themselves so prejudicial to health, one would almost be led to think it was by Divine dispensation that he is afforded so pleasant a contrast as the study of Medical Botany, when in pursuit of which he freely ranges the fields breathing the purest atmosphere, and surrounded by all that can charm the eye or the ear; an employment not less conducive to health than it is to recreative amusement.

This science has of late years been studied theoretically only; by which persons are taught to distinguish the different parts of a plant, and to call each by its proper name, and to know how to apply them scientifically as a key to the different systems that have been published. But there are few who possess much practical knowledge, either as to an acquaintance with our native plants at sight, or with their useful or noxious qualities; and which can only be acquired by attending to the different habits and characters of each in their native places of growth. By this means also proper specimens may be obtained and preserved, and the memory from time to time refreshed by reference thereto.

And as the practical part should, in some degree, be engrafted on the theoretic, so the first object should be to obtain a knowledge of the rules of some system, which may be studied to the best advantage by an application to books, aided by examples of plants properly arranged in botanic gardens.

A number of botanical professors have engaged in endeavouring to form systems for the arrangement of this portion of natural history; and many have been the rules laid down and adopted at different times, which have in their turn given place to others that seemed to possess greater advantages. But none have as yet approached so near to perfection as that of the celebrated Linnæus, which has stood its ground for fifty years, and is the only one used in the present day throughout the British islands and the north of Europe. The French, however, from national pride, adhere in general to the system of their countryman, Jussieu.

The system of Linnæus, if divested of many of those

technical terms and laboured phrases with which some of his adherents have loaded it, will be found very simple, and within the comprehension of every person who chooses to bestow upon it a few hours; and he will certainly make more progress in finding out the names of plants by this method, than he could by any other in the same time.

As it is our object to instruct the pupil in a knowledge of the science, rather than to give a dissertation on the different systems that have been formed, we shall proceed to give such explanations as will tend to lead the young botanist into this delightful path.

It must be noticed, in the first place, that the vegetable kingdom is divided by Linnæus into twenty-four classes, to some one of which every plant that has hitherto been discovered is readily referred; and on this basis the whole <sup>superstructure</sup> of botany is founded. To understand this, it is necessary that the ~~different parts~~ <sup>different parts</sup> of a flower be previously known to the pupil, as on this depends the classification. And these, generally speaking, are four: viz.

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| 1. The CALYX.   | 3. The STAMEN, |
| 2. The COROLLA. | 4. The PISTIL. |

**CALYX.** If I take a single-flowered rose, for instance, I find the part next the stalk to consist of a small cup composed of five distinct pointed leaves, that are of a green colour; and this is termed *the Calyx* or *Flower-cup*. It may be here remarked, that the calyx is that part of a rose-bud which, before opening, covers the tender part of the bloom, and which, as the bud advances, is divided into five parts: in fact, this is the part below the flower which has the mossy appearance in the Moss Rose.

A flower-cup, when divided as in the rose, is called five-leaved: but in some flowers, when it has the appearance of a bell, and is not divided, it is termed a one-leaved Calyx, as is to be observed in the Potato, Campanula, &c.

**COROLLA.**—The corolla is the part of the flower which is composed of the fine coloured leaves; each of which distinctly taken is called a Petal. Thus the five leaves in the

flower of the Dog Rose, when taken collectively, are termed the Corolla; but when considered individually, Petals: so that the Dog Rose contains a corolla of five petals; or otherwise a polypetalous\* or many-petaled corolla; so called, to distinguish it from those which are not divided, as in the Campanula, &c. where, being of one piece, it is termed a one-petaled or monopetalous corolla. This part of the flower is characterized by various different appearances, and the reader will find them well defined in Professor Martyn's Language of Botany, to which I would advise him to refer.

**STAMENS.**—These consist of *three* parts: The Filament, or thread which supports the small protuberance at top, called the Anther. The Pollen or Farina is the yellow dust which is discharged from this part when at its maturity.

The **STAMENS** in the flower of the Rose are of a yellow colour, and more than twelve in number. They are known to vary much in different plants, not only in number, but also in form, situation, colour, and size. And as this is the principal part which is to engage the attention of the young botanist at present, it will be necessary that he should be particular in distinguishing them from the pistils.

**PISTILS.**—These also vary in form, size, and number, in different flowers; but they are chiefly situated in the centre of the stamens, and are mostly upright, and of a different colour from them, and invariably want the tips that those always have. In the Rose their number is six or seven. Pistils are composed of three parts, *i. e.* the Stigma, which is the uppermost point, and is generally spreading, but varies in form: in the Rose it is round; in others it is angular, which will be treated of hereafter.

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\* Plain English terms might with propriety be used instead of those which are Greek: but most writers having preferred those, it will be necessary occasionally to use them; otherwise they will be on all occasions spared, and in particular those indelicate ones which are found in too many of our elementary books on this subject.

The Style is the small pillar supporting the stigma; and the base of the style is called the Germ, which afterwards becomes the Pericarp or seed-vessel, which will be noticed in its proper place. An acquaintance with the above parts is all that is necessary as an introduction to the knowledge of the first division, *i. e.*

### THE CLASSES.

#### CLASS I.—MONANDRIA.

Plants whose flowers have only one stamen, of which we have but few examples. *Hippuris*, Mare's-Tail; *Canna Indica*, Indian Shot.

#### CLASS II.—DIANDRIA.

Plants whose flowers have two stamens in this system belong to the second class; as is seen in *Veronica*, Speedwell; *Salvia*, Sage; *Anthoxanthum*, Sweet-scented Vernal Grass.

#### CLASS III.—TRIANDRIA.

Those plants whose flowers have three stamens are of the third class, as for example, *Valeriana*, Valerian; *Poa*, and most other Grasses; *Crocus*, *Iris*, &c.

#### CLASS IV.—TETRANDRIA.

Four stamens of equal length occasion the plant to belong to the fourth class.—It is here necessary to caution the pupil against confounding this with the fourteenth class (*Didynamia*), in which the number of stamens is the same; but they are of unequal length; and as from their situation two appear to be above the others, hence the name, which in the original Greek signifies two superiors. The flowers of this class are *Scabiosa*, Scabious, &c.; *Dipsacus*, Teasel; *Cornus*, Dog-Wood; *Ilex*, Holly.

#### CLASS V.—PENTANDRIA.

Plants whose flowers contain five stamens belong to the fifth class; as may be seen in *Atropa*, Deadly Nightshade; *Borago*, Borage; *Convolvulus*, Bindweed; *Campanula*, Bell-flower; and *Conium*, Hemlock.