

# SELECTED MATTER.

## A COURSE OF LECTURES ON ORGANIC CHEMISTRY.

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### LECTURE II.

Gentlemen:

If we glance at the vast number of compounds which the element carbon forms with hydrogen or with hydrogen and oxygen, or with the latter two elements and nitrogen—a number which has been rapidly multiplied during the last twenty years by the united efforts of so many cultivators of this branch of science—if we consider, moreover, that, so far as we can foresee, this number is capable of being increased—I might almost say *ad infinitum*—the mind seeks anxiously for some thread which may serve as a guide through the intricacies of this labyrinth. The first thing that strikes us is the necessity of a simple classification of these numerous compounds.

When we treat of inorganic chemistry, divisions and subdivisions of the subject present themselves very naturally in the diversity of the components of the ordinary mineral compounds. This mode of classification is, however, inapplicable in organic chemistry, (I may henceforth be allowed to use the term “organic” for representing that class of compounds which I have endeavoured to delineate in my last lecture,) inasmuch as in the composition of organic substances but a very limited number of elements are involved. Several attempts have been made to classify organic substances according to other principles, varying with the position of this science at different periods. At one time chemists were satisfied to group the substances according to their origin, and hence the subdivision, very frequently adopted even at present of organic chemistry into vegetable and animal chemistry. You observe that this classification rests upon the arrangement of natural history. The compounds derived from the vegetable or animal kingdom were again roughly grouped according to their most salient chemical characters: for example, as acids, bases, and indifferent substances. This mode of classification possessed undoubted advantages at the time it was proposed: it formed a necessary step in the upward progress of chemical science; but it became more and more inadmissible in proportion to the increase of the sources of organic compounds and to the number of substances derivable alike from the animal and vegetable kingdoms. Moreover, in the same measure as organic compounds increased, acids, indifferent substances, and bases began to graduate so imperceptibly into each other, that in a great many cases it became doubtful under which of these three heads a given compound ought to be placed.

All attempts at classification which are at present being made (I say attempts, because the time for a definite and lasting system has scarcely come) are based upon another principle, which again serves to contradictistinguish organic from inorganic compounds. While in inorganic chemistry it is, as was stated, the *quality* of the elements which assists us in synoptically arranging the mineral substances belonging to this department of the science, it is in organic chemistry the *quantity* of the few elements producing so vast a number of compounds which forms the basis of classification. It is not my intention to enter more fully into the subject of classification at present; in order to do this successfully, it is necessary that a certain amount of material should be at our disposal, that we should be already acquainted with a certain number of organic compounds. The object of these brief remarks is to direct your attention, even at this early period, to the interest belonging