

V.—*The Tautomerism of Oxymethylene and Formyl Compounds.*

By CHAS. G. L. WOLF, B.A., M.D.

Demonstrator of Practical Chemistry, McGill University.

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Of the different kinds of isomerism which are found in organic complexes, that perhaps which has excited the greatest amount of interest in the last five years has been *Tautomeric*.

Tautomerism may be defined as the property which metameric bodies may possess of reciprocal transformation, the change being due to a certain part of the molecule being labile, and under different conditions, of having a tendency to select one or other part of the complex as its place of junction.

The word Tautomerism, derived from the Greek *ταυτος*, *the same*, is not perhaps the most suitable name etymologically that could be chosen, but as it is the name which has been longest in use, it is still retained to denote this property. Of the other names which have been suggested since the publication of Laar's papers, the more important are : Desmotropism, Merotropism, Pseudomerism and Tropomerism.

Desmotropism, suggested by Jacobson (*Δεσμος*);

Merotropism, by Michael (*Μερος*);

Pseudomerism, by Laar (*ψευδης*);

although having in special cases some significance, are scarcely to be commended, because of the implication that one of the tautomeric compounds is the more stable. In the case of ethyl formyl phenyl acetate, the stability of the two isomers is practically alike, so that, in this case, a definition of this kind does not exactly apply.

Claisen has made the suggestion that the word Tropomerism (*Τρεφειν*) should be used, but he did not insist upon it, on the ground that there are already too many designations for the property.

The first important contribution to the subject was that of Conrad Laar, who in his first paper, and especially in his second, attempted very successfully to give a classification of those molecular arrangements which would be capable of existing in isomeric modifications dependent on the shifting of a part of the molecule from one position to another. He divides tautomers according to the number of atoms over which the labile part would move.

The first classification divides the groups into two : (1) Dyads or artiads, and (2) triads or perissads. From the combination of these one is able to obtain still more complex groups capable of tautomerism.