

## A Few Ideas on Modelling

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**Abstract:** *In Engineering, it is often convenient to represent physical (real life) systems by 'models' for analysis or design. The physical system here is defined as the conglomeration of hardware which may be found (for example) in a laboratory or factory. The model may take a number of forms. The criterion of "goodness" is the degree to which the results of tests carried out on the model match those of corresponding tests carried out on the real life system. Usually, models are used to represent physical systems only under specific operating conditions. The basic principle of modelling is that conclusions arrived at via the model must hold for the physical system under prescribed conditions. This paper introduces an approach to modelling technique which is consistent and indicates the direction of the author's thoughts as regards a theory of modelling. The concepts outlined in the first part of the paper are applied to the establishment of a unified approach to the teaching of A. C. and Transient Circuit Theory. This should give the student a clear picture of the reasons behind the rules of circuit theory.*

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