

Classification of Models

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SQM Model Definition

- Definition 1.4.1: A *mathematical model* is a triplet (S, Q, M) where S is a system, Q is a question relating to S , and M is a set of mathematical statements $M = \{\Sigma_1, \Sigma_2, \dots, \Sigma_n\}$ that can be used to answer Q .

Classification of Models in SQM Space

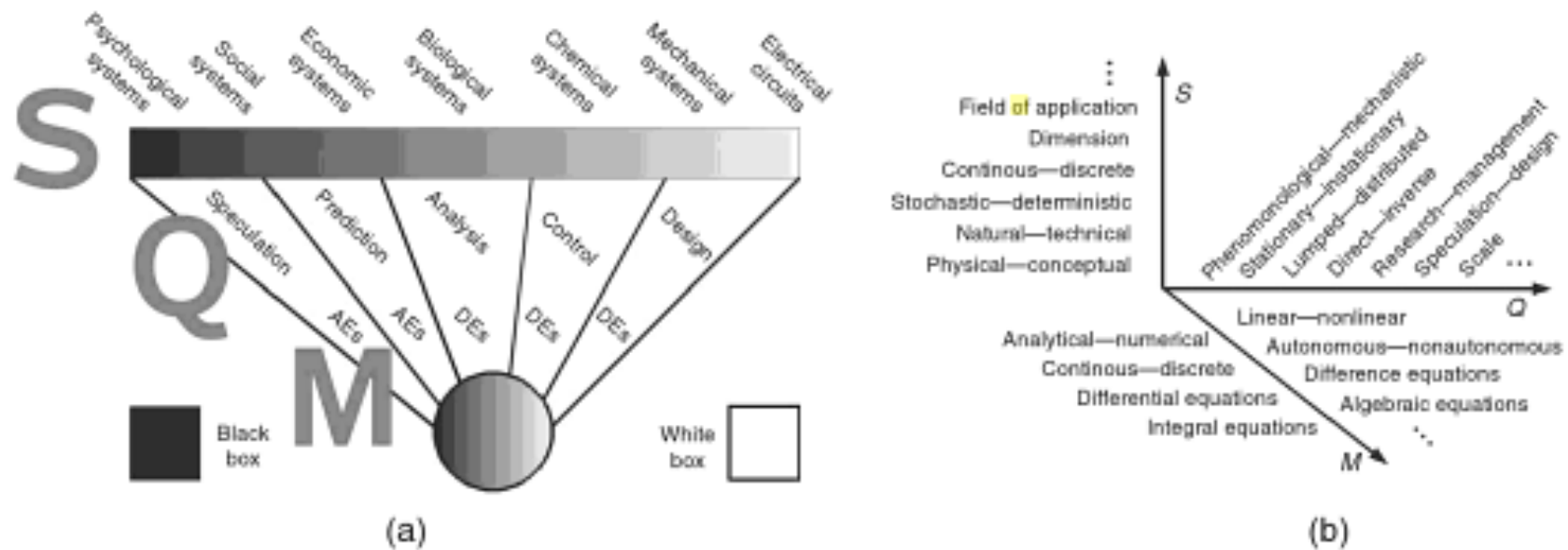


Fig. 1.11 (a) Classification of mathematical models between black and white box models (adapted from [3]). (b) Classification of mathematical models in the SQM space.

Example: Population Ecology Model

- http://faculty.uca.edu/johnc/population_ecology.htm
- How would we classify the population growth model?