

Qualitative Scientific Modeling and Loop Analysis

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Abstract

Loop analysis is a method of qualitative modeling anticipated by Sewall Wright and systematically developed by Richard Levins. In Levins' (1966) distinctions between modeling strategies, loop analysis sacrifices precision for generality and realism. Besides criticizing the clarity of these distinctions, Orzack and Sober (1993) argued qualitative modeling is conceptually and methodologically problematic. Loop analysis of the stability of ecological communities shows this criticism is unjustified. It presupposes an overly narrow view of qualitative modeling and underestimates the broad role models play in scientific research, especially in helping scientists represent and understand complex systems.

Keywords: models and idealization, loop analysis, qualitative analysis, feedback, stability

Subjects: [General Issues: Models and Idealization](#)
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