





Radboud University Nijmegen





Three degrees of theory separation



(linear) statistical  
models

# mathematical model formal calculus

being  
formal



## **A. Scientific claim, either by construction, or by raising conjectures to principles:**

- I. Type of entity postulated (substance, structure, event, state, disposition, field)
- II. Compositional, developmental, or efficient-causal connections between the entities in I

## **B. Tests of associations between entities**

- III. Signs of first derivatives of functional dynamic laws of connections in II
- IV. Signs of second derivatives of functional dynamic laws of connections in II
- V. Signs of mixed second order partial derivatives (Fisher “interactions”) of connections in II
- VI. Ordering relationships among the derivatives in III, IV,V

## **C. Prediction of functional form and parameter values, tests of universality:**

- VII. Function forms (e. g., linear? logarithmic? exponential?) of connections in II
- VIII. Trans-situationality (Context relativity) of parameters in VII
- IX. Quantitative relations among parameters in VII
- X. Numerical values of parameters in VII





**Special Section On A Biological  
Window on Psychological  
Development. Edited by Clancy Blair  
& Jean-Louise Gariepy**

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**On the Implications of the  
Classical Ergodic Theorems:  
Analysis of Developmental  
Processes has to Focus on  
Intra-Individual Variation**

A Manifesto on Psychology  
as Idiographic Science: Bringing the  
Person Back Into Scientific Psychology,  
This Time Forever

Peter C. M. Molenaar  
*Department of Psychology*  
*University of Amsterdam*





Idiograpichic Science