

# Wobbles, Humps and Sudden Jumps: A Case Study of Continuity, Discontinuity and Variability in Early Language Development

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Current individual-based, process-oriented approaches (dynamic systems theory and the microgenetic perspective) have led to an increase of variability-centred studies in the literature. The aim of this article is to propose a technique that incorporates variability in the analysis of the shape of developmental change. This approach is illustrated by the analysis of time serial language data, in particular data on the development of preposition use, collected from four participants. Visual inspection suggests that the development of prepositions-in-contexts shows a characteristic pattern of two phases, corresponding with a discontinuity. Three criteria for testing such discontinuous phase-wise change in individual data are presented and applied to the data. These are: (1) the sub-pattern criterion, (2) the peak criterion and (3) the membership criterion. The analyses rely on bootstrap and resampling procedures based on various null hypotheses. The results show that there are some indications of discontinuity in all participants, although clear inter-individual differences have been found, depending on the criteria used. In the discussion we will address several fundamental issues concerning (dis)continuity and variability in individual-based, process-oriented data sets. Copyright # 2007 John Wiley & Sons, Ltd.

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