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## **A step towards a unified theory of cognition**

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How humans acquire language is still one of the great mysteries in the cognitive sciences, however, contemporary studies in computation linguistics are bringing us amazing results that might shine light on this great mystery. One of the models in this field is called 'Unsupervised Data-Oriented Parsing' (U-DOP), instantiated by Rens Bod and his colleagues. Recently Bod (n.d.a, n.d.b, 2005, 2008) claimed that unsupervised probabilistic learning models do not only shine light on the mystery of language acquisition, they might be able to bring us closer to solving the Grand Challenge posed by Newell (1990, 1992). Newell's aim was to focus cognitive researchers on one central research question, the Grand Challenge, is a unified theory of cognition possible.

The aim of this paper is twofold. First of all I aim to do what Bod never does, namely, compare his model to Newell's criteria for a unified theory of cognition, and secondly, I aim to look at the applicability of this model by discussing some major problem for such models. Firstly, I will set out Newell's challenge by providing his definition of a 'unified theory' and his criteria for such a unified theory of cognition. Newell describes a 'priority list' of cognitive mechanisms of which any unified theory of cognition should aim to cover as much as possible.

Secondly, I will discuss Bod's Unsupervised Data-Oriented Parsing (U-DOP) model and compare it to the aforementioned criteria. The U-DOP model works as an unsupervised, probabilistic learning model and I try to briefly explain the mechanics behind this as clear as possible and how such a model could, according to Bod, bring us closer to solving Newell's problem. Although the U-DOP model may not be able to cover cognitive mechanisms such as 'dreaming' or 'emotion', the model does seem to cover a majority of the high priority mechanisms proposed by Newell. Finally, I will discuss a major problem such a model should overcome for the model to be a realistic representation of real-life learning and end with a suggested path worth pursuing to further the accomplishment of Newell's Grand Challenge as focus of cognitive research has significantly changed since the publication of Newell's book.