Heaviness vs. newness: The effects of structural complexity and discourse status on constituent ordering

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Abstract
Variations in postverbal constituent ordering have been attributed to both grammatical complexity (heaviness) and discourse status (newness), although few studies compare the two factors explicitly. Through corpus analysis and experimentation, we demonstrate that both factors simultaneously and independently influence word order in two English constructions. While past investigations of these factors have focused on their effects in language comprehension, we argue that postponing heavy and new constituents facilitates processes of planning and production.


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HEAVINESS VS. NEWNESS: THE EFFECT OF STRUCTURAL COMPLEXITY AND DISCOURSE STATUS ON CONSTITUENT ORDERING

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Variations in postverbal constituent order have been studied in both grammatical syntax (heaviness) and discourse status (newness). To date, few studies compare the two factors explicitly. Through a series of analyses and input materials, we demonstrate that both factors interact significantly in the selection of constituents, usually within the same sentence, using natural English constructions. While prior investigations of these factors have focused on their effects in language comprehension, we argue that providing heavy and new constituents facilitates processes of planning and prediction.

Even relatively fixed-word-order languages like English permit certain phrases to occur in more than one order. Examples 1–3 illustrate three familiar distinctions in the sequencing of postverbal constituents.

(1) Heavy NP Shift (LINS)
   a. The water brought the wine we had ordered into the table.
   b. The wine brought to the table the wine we had ordered.

(2) Outline Alternation (OA)
   a. Chris gave a bowl of Mom's traditional cranberry sauce to Terry.
   b. Chris gave Terry a bowl of Mom's traditional cranberry sauce.

(3) Verb-Particle
   a. Sandy picked the freshly baked apple pie up.
   b. Sandy picked up the freshly baked apple pie.

Why does such variation occur? This question can be asked from two closely related perspectives: (1) What factors can influence the choice of one ordering over the other, and (2) What functional constraints can prevent ordering variations from occurring?

This article addresses both of these questions. For the first question, we focus on proposals that grammatical complexity (heaviness) and discourse status (newness) are crucial factors in determining constituent ordering. Although both factors have been considered by different scholars, most studies overlook the possible effects of one or the other, and almost no studies have simultaneously investigated the two together: a relation to one without ordering. Some authors have even explicitly proposed that only one factor or the other is responsible for variation in constituent ordering. This led us to ask whether both newness and heaviness are relevant factors, or whether just one can account for constituent ordering variation. We investigated this question through

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1 We would like to thank Peter Dost and Robby Ginsburg for their help with the experiments. Both authors provided many useful discussions of the issues in this paper, as well as detailed comments on earlier versions. The authors also thank Joe Luedemann, Elizabeth Biederman, and the anonymous reviewers for their comments and suggestions. Special thanks to Amy Taft, who prepared the manuscript. The research was presented at the 1997 meeting of the Linguistics Society of America in Chicago, under the title "Syntax or Negation Order?". Thanks to the reviewers for reading this manuscript.

2 The term “heavy” used here is the same term that should not be taken as a commitment to analyses of these phenomena involving different interpretations.
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