Introduction

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The papers in this special issue originated in a theme session entitled ''Cognitive Approaches to Language Acquisition'' presented at the 10th International Cognitive Linguistics Conference in Krakow, Poland (2007). The intention of the session organisers, Ewa Dąbrowska and Elena Lieven, was to bridge the gap between cognitive linguistics and language acquisition research by bringing together linguists and psychologists working on the acquisition of language in a broadly defined cognitive linguistic framework. In their introductory remarks to the session, the organisers argued that a lively dialogue between cognitive linguists and child language researchers could only benefit both disciplines. On the one hand, cognitive linguistics is an attractive theoretical framework for language acquisition researchers. For instance, the ideas that much of speech can be produced using item-based patterns, that knowledge of a language emerges from concrete linguistic experience, and that it is important to situate language within the cognitive domain, are all themes that run through both constructivist acquisition research and cognitive linguistic theorising. On the other hand, research on language acquisition offers excellent opportunities to test and refine proposals developed by theoretical cognitive linguists (and, of course, linguists of other theoretical persuasions). For example, developmental research provides perhaps the most compelling empirical support for some central claims of cognitive linguistics such as the views that adult grammar consists of an inventory of symbolic units of varying degrees of specificity and that knowledge of the grammar involves generalisation over specific symbolic units.

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In collecting together the papers in this special issue, we have attempted to adhere to the original purpose of the session organisers. In essence, the aim of the volume is to demonstrate the benefits of a symbiotic relationship to both cognitive linguists and child language researchers. The most obvious way for the disciplines to collaborate is to combine the theoretical expertise of the linguists and the empirical know-how of the acquisition researchers. Acquisition researchers can derive theoretical predictions from the theories of cognitive linguists, and the data on which they test these predictions can be used to inform the development and extension of the linguists' theories. However, acquisition researchers do not simply deal in data, and cognitive linguists do not simply create theories. Perhaps more importantly, child language researchers can use the data provided by linguists (e.g., about how languages pattern) to inform their own theories of acquisition. Similarly, cognitive linguistics can use current theories of acquisition to inform their empirical work on the nature of language itself; there is little point in positing a theory of language which postulates structures that are potentially unlearnable.

To see how this relationship might work, we illustrate with just two themes that emerge from the papers in this volume. First, the papers demonstrate that one strength of both constructivist child language research and cognitive linguistics lies in the attempt to use the same set of explanatory principles (e.g., frequency-based distributional analysis, semantically-based distributional learning, schematisation and generalisation) to explain a range of phenomena. Of course, these ideas are all too often underspecified, and theories that are too vague are unfortunately, untestable. However, we do not think this is necessarily the case here—we believe that these ideas have a lot of explanatory power, which means that the approach has the potential to produce a coherent, streamlined theory of language acquisition. If true, this would give constructivist acquisition research and cognitive linguistics an advantage over more traditional approaches in both disciplines, which often have to appeal to different principles or rules to explain different phenomena.

The second theme that emerges from these papers is that the usage-based approach to acquisition posits much more than just the low-level learning of frequent patterns in the input. While some of the papers focus on more 'traditional' usage-based topics such as lexically specific learning, others show that explanations of complex structures such as relative clauses can also be formulated by calling on ideas proposed by cognitive linguists; ideas such as schematisation, generalisation, semantically-based distributional learning and prototypicality. The papers also reveal, when predictions are not upheld, where the weaknesses in the theories lie.

About the papers

While we have tried to cover a range of topics in these papers, the emphasis across the special issue is on deriving testable predictions about language development and discussing the implications of developmental research for theoretical linguistics. We have organised the papers in a loose sequence, broadly moving from the simplest structures to more complex constructions. The issue finishes with a broad theoretical perspective provided by a leading theoretician in cognitive linguistics.

The first two papers address the question of how children build up knowledge of more abstract constructional representations from initially lexically-specific chunks or low level schemas. Lieven, Salomo and Tomasello investigate how closely related children's earliest multi-word utterances are to those they have produced previously, using a traceback methodology. Using dense data from four English-speaking children at age 2;0, they aim to address the question of how an early reliance on lexically-based schemas might develop, over time, to show increasing abstraction and variability. The authors argue that their data provide evidence for the emergence of abstract 'referent' slots at an early stage, and only later do they find evidence for abstract 'process' slots. They conclude that their data provide support for the usage-based approach that posits the gradual emergence of an inventory of abstract constructions over development. Schmidtke-Bode investigates, longitudinally, two children's acquisition of the *going to V* and *gonna V* constructions. He proposes that the children's knowledge of these constructions is built up from low-level chunks of varying degrees of schematicity. Particularly novel in this paper is the application of new analytic techniques in an attempt to document the gradual development of a constructional network.

The next three papers focus on children's acquisition of more complex linguistic phenomena: relative clauses, long distance dependencies in questions, and co-reference. All three papers have in common that previous research has typically explained children's performance in structural, generativist terms. These papers investigate whether the usage-based approach can provide alternative explanations for relevant data. Brandt, Kidd, Lieven and Tomasello present a comprehension study examining children's understanding of subject and object relative clauses in English and German. Their data show that if children are presented with object-relatives that obey the discourse constraints identified in spoken language, they perform at the same level as with subject-relatives. They conclude that children's linguistic representations are shaped by their experience with language and the discourse functions it serves, arguing against approaches that explain the difficulties children face with object relatives in

previous studies in purely structural terms. Dąbrowska, Rowland and Theakston present three elicited imitation studies examining children's and adults' knowledge of questions involving long distance dependencies and the corresponding declaratives. Their data show that children are better at repeating prototypical declaratives and questions, that is, those whose form most closely matches the instances most frequently found in spoken language. Even adults showed prototypicality effects for questions with LDDs. They conclude that children's developing knowledge of complex constructions is shaped by linguistic experience and that previous studies, by employing prototypical stimuli, have somewhat overestimated children's abilities. Matthews, Lieven, Theakston and Tomasello present comprehension and production data to investigate English-speaking children's understanding of co-reference. They report that contrary to most generativist accounts, children accept co-referencing errors involving bound anaphora, and their responses are not easily explained by guise-creation theories. However, although they find robust lexical effects, their data are not directly predicted by constructivist, frequency-based accounts. Their results pose challenges for both generativist and usage-based accounts of language acquisition.

Finally, in a thought-provoking overview, Langacker provides a general constructivist framework for thinking about some of the central problems the papers address. What are the processes underlying abstraction from language use? What is abstracted, and how? How might such information be represented and used to produce language? He emphasises the multidimensional nature of linguistic representations, the interweaving of form and meaning, and the dynamic shifts in representation in ontogeny and beyond.

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