

BOOK REVIEW

Dissecting SLI

Dorothy V. M. Bishop (1997). *Uncommon Understanding: Development and Disorders of Language Comprehension in Children*. Hove, UK: Psychology Press, i–viii+277 pp. (Hardcover). ISBN 0-86377-260-9.

Reviewed by Brian MacWhinney

Carnegie Mellon University

Bishop's textbook focuses on disorders of language processing that can be viewed as generated by specific language impairments (SLI). In her view, language processing involves components such as audition, articulation, lexical processing, morphosyntactic processing, and pragmatic processing. For each of these components, Bishop examines possible root causes that can lead to developmental language disorders. She also explains how disorders in one component can interact with disorders in other components. The overall framework provides an interactive, componential account of the root causes of SLI. This is an excellent book that stands as a definitive contribution to the literature on a difficult topic. It functions well not only as a reference work, but also as an introductory textbook. © 1999 Academic Press

In this book, Dorothy Bishop examines why it is that “there are children who are physically and emotionally intact, who have been raised in homes with articulate, loving, communicative parents, and whose development is following a normal course in all other areas, but for whom language learning poses major problems.” The basic phenomenon Bishop is pointing to is known as specific language impairment or SLI. This disorder involves problems with language processing without accompanying cognitive disorder or social disadvantage. Understanding the root causes of SLI is a major challenge facing the fields of speech and hearing, neurolinguistics, and cognitive science, more generally.

This is an excellent book. Everyone who has an interest in understanding language development should read this book and many readers will want to keep a copy of the book on their shelf for reference. Students of language disorders will find here a brilliant summary of the issues and analyses that are shaping their field. Students of normal development can use this book as a way of gaining a better understanding of the ways in which the intricate structure of language learning can become unbraided. Although Bishop pro-



vides a serious and scholarly treatment of the details of the thorniest theoretical disputes, the book is entirely accessible to the nonspecialist. A rich collection of figures, graphics, tables, and boxes conveys details that bring the theoretical presentation alive. Each chapter begins with an overview, a posing of questions to be addressed, and a clarification of basic terminology. Together, these features make this a perfect choice as a textbook for classes in developmental language disorders as well as a reliable reference for interested parents and educators.

Although the title of the book promises that it will focus exclusively on disorders of comprehension, Bishop finds that she has to deal repeatedly with disorders in language production. In fact, her clearest accounts of the shape of SLI are those that are based on data from language production. At the same time, she views comprehension as the true indicator of SLI and production deficits are given a back seat. I found this attempt to focus on comprehension at the expense of production occasionally confusing. In fact, I believe that Bishop's basic argument would have been even stronger if she had dealt systematically with both receptive and expressive processes. For me, this was the only major flaw in an otherwise excellent book.

Early on, Bishop dismisses the idea that SLI might be a unitary phenomenon. The fact that SLI is much more likely to occur in boys than in girls might initially seem to point in this direction. However, the general vulnerability of males to all sorts of developmental disorders also matches up well with a multicomponent model, if one assumes that the likelihood of having a given component impaired is simply increased for males. Moreover, even among boys, the patterns of language deficit in SLI are extremely diverse, with some children showing largely auditory deficits and others largely pragmatic deficits. At various points through the book, Bishop considers the possibility that all SLI deficits may have their roots in auditory, or perhaps articulatory, disorder. According to this account, all features of receptive SLI would stem from auditory disorder with some amplification through experiential factors and all features of expressive SLI would stem from articulatory disorder. However, this is not the path that Bishop takes.

Instead of trying to treat SLI as a unitary disorder, Bishop views it as a componential disorder modified by interactive processes. The fundamental logic of Bishop's analysis is simple. Relying on basic findings from linguistics and psycholinguistics, she decomposes the processes of comprehension and production into their usual parts. These include the five components of audition, articulation, lexical processing, morphosyntactic processing, and conversationally based pragmatic functioning. Of course, each of these major divisions can be further divided into subcomponents. For example, Bishop distinguishes sensory, temporal, featural, and phonological aspects of auditory processing. However, for the basic purposes of understanding the current state of the art in research on SLI, it is safe to think in terms of these five components.

Because of her decision to focus on comprehension, rather than production, Bishop says little about articulatory disorders. However, the fact that some children have a specific articulatory disorder is a clear case in support of a componential analysis of SLI. Many intelligent children suffer from lisping or stuttering without evidencing any other language disorder.

In the area of auditory deficits, Bishop focuses on the temporal processing deficit account for SLI developed by Tallal and Piercy (1973). She meticulously traces out the many challenges that have been raised against the original account, as well as the various reformulations that have been offered. The fact that auditory processing deficits can diminish with age and that they are modifiable by interventions that focus on attentional training suggests that we may want to view attentional deficits as the root of at least some auditory problems. If this is true, the fact that children with auditory deficits have more general language processing problems would suggest that we might want to think in terms of attention as being the root cause of at least some language disorders.

When we turn to the area of lexical access, the proposed root deficit involves problems with word learning. Bishop recognizes the fact that word learning can be slowed by poor auditory processing, weak storage in lexical memory, or even the inability to use syntactic cues to bootstrap word meaning. Unfortunately, Bishop fails to explain precisely how these various problems in word learning can end up producing an overall comprehension deficit. If some children with SLI are slow in learning words, this would lead to a slight retardation during the first two or three years of language learning. However, these children should eventually acquire the core vocabulary of the language. It is hard to see how such a simple slowdown in acquisition could produce a general processing deficit that lasts through the school years. Instead of focusing simply on acquisition, Bishop may wish to develop her account of lexical processing problems in the context of developmental processing models of the type explored by Gupta and MacWhinney (1997) and others.

In the area of sentence processing, Bishop contrasts a representational deficit approach with a processing deficit approach. Her characterization of the evidence favoring each of these alternatives is supremely even-handed. She notes that "children with SLI behaved as if they knew something about grammatical principles, but were shaky in applying that knowledge." This comment suggests that she finds it difficult to imagine an account of morpho-syntactic deficits that does not include a major role for processing deficits. Whether the final account can rely only on processing deficits remains to be seen.

Finally, Bishop examines a fifth possible root cause of SLI. This is the possibility that some children may have an underlying deficit in pragmatic functioning that leads to inappropriate conversational behavior. Bishop cautiously suggests that some children may have immature social cognition or

pragmatic language impairment (PLI). She recognizes that delays in the development of social cognition can be influenced by social factors, as well as by the associated traces in SLI children of mental retardation and autism.

Looking back over Bishop's discussion of possible root causes of SLI in each of these component areas of language processing, we begin to realize that she has been slowly building a strong case against the view of SLI as a unitary disorder. At many points, she explains how disorders in one component can interact with processing in another component to produce a more general deficit. For example, if the child does not process words clearly, lexical acquisition and processing will be impeded. Similarly, if social cognition is weak, the use of the meanings of words like "remember" or "promise" may be unstable and incomplete. However, these interactions between components do not undercut the basic logic of the componential analysis that Bishop has constructed. Instead, they help us understand why it has been so difficult to separate out children with SLI into clearly separate subtypes. In addition to interactions between deficits in the various components, there may well be cases in which children have multiple deficits, as well as the possibility that underlying deeper deficits such as mental retardation or autism produce additional effects for each of these components. Together, these interactive effects may tend to mask the componential composition of what we call SLI.

In the end, the evidence that Bishop reviews and the framework she adopts support an interactive, componential model of SLI. Because her book is structured as a textbook, she refrains from converting this analysis to a full-blown hypothesis. Instead, the reader is left with the task of inferring Bishop's final conclusion on this central issue. In a sense, this is appropriate, since these issues are far from resolved and there is still so much in this field that is up for grabs. In particular, one would like to see her componential analysis supported by numerical data showing how the different SLI types have differential impairment of the various components in large samples. Unfortunately, such data do not appear to be yet available. In the meantime, the componential analysis that Bishop develops should serve as a useful framework for ongoing thinking about the root causes of SLI. Because Bishop has made her analysis accessible to such a wide audience, it is bound to increase attention to the framework she proposes.

REFERENCES

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