

REVIEWS

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LEVY, Y. & SCHAEFFER, J. (eds), *Language competence across populations: towards a definition of Specific Language Impairment*. Mahwah, NJ: Erlbaum, 2003. Hardback, Pp. 467. ISBN 0-8058-3999-2.

This edited collection is the result of the collaborative effort of a group of some of the leading scholars in the field of developmental language disorders. The seventeen chapters in the book are the written versions of the original contributions to a workshop on language development across populations organized in Jerusalem in 2000. The volume consists of two parts: part A (*Language Competence across Populations*) is further divided into three sections addressing the characterization of SLI, methodological concerns, and language competence in children with neurodevelopmental disorders. In part B (*Towards a Definition of SLI?*) some of the main theoretical and methodological issues in part A are systematically revisited, a number of crucial unresolved questions are highlighted for future work in the field, and important caveats are brought to the attention of the research community.

The first section of Part A focuses on the nature of SLI: its relationship with linguistic theory; the interaction between different components within language, i.e. the lexicon, the computational component, and the pragmatic system; the heterogeneity of the disorder; and the role played by typological evidence in identifying the underlying cause of the impairment. The link between linguistic theory and the characterization of SLI is more specifically addressed by Wexler (Chapter 1), van der Lely (Chapter 4), Schaeffer (Chapter 5), and de Jong (Chapter 6).

One of the crucial issues in the characterization of the nature of SLI is the extent to which the disorder is indeed specific to language, as opposed to being parasitic on domain-general problems in other areas of cognition. This is what de Villiers (Chapter 9) defines as the ‘specific-to-language’ question. Wexler (Chapter 1) and van der Lely (Chapter 4) take a strong domain-specific generativist position whereby the underlying cause of the symptoms of SLI is to be circumscribed to the linguistic module, and specifically the syntactic module. Focussing on early stages of morphosyntactic development Wexler and colleagues (Rice, Wexler & Cleave, 1995; Rice & Wexler, 1996; Rice, Wexler & Hershberger, 1998) have proposed the Extended Optional Infinitive (EOI) hypothesis: a delay in the maturation of a syntactic constraint (the Unique Checking Constraint) is at the root of children with SLI’s extended period of optional Tense marking in obligatory contexts.

A similar approach to the highly specific nature of the difficulties that characterize SLI is taken by van der Lely (Chapter 4). Van der Lely identifies the cause of the grammatical problems of a selected group of children with Grammatical SLI (G-SLI) as lying in the optionality of the 'Move' syntactic operation. By van der Lely's own admission the profile of G-SLI may be applicable only to a subgroup of children that are classified as having SLI by the customary exclusionary criteria. Nonetheless, she advocates the in-depth study of homogeneous subgroups of the larger, heterogeneous SLI population to achieve a degree of descriptive and explanatory adequacy that would be otherwise unattainable. For both Wexler and van der Lely a highly selective delay in the maturation of a constraint, or an operation within the syntactic module, parsimoniously accounts for a host of difficulties that are symptomatic of the disorder. Language-external explanations involving processing difficulties are unnecessary.

Following in the same generative paradigm adopted by Wexler and van der Lely, Schaeffer (Chapter 5) concentrates on the relationship between two grammatical modules: syntax and pragmatics. Her work provides yet another example of selective impairment within SLI. Specifically, Schaeffer argues for the development of interface pragmatics as a system independent of the computational system: Dutch-speaking 4- to 8-year-olds with SLI still have problems with the morphosyntactic requirements regulating the overt realization of determiners, but they behave like the chronological age controls when it comes to their pragmatic appropriateness.

The last chapter in this first section directly addressing the relationship between linguistic theory and the nature of SLI is by de Jong (Chapter 6). De Jong questions the relevance of linguistic accounts of SLI showing how their predictive and explanatory power largely depends on the specific hypothesis adopted. Rather than a top-down approach from linguistic theory to the empirical data, de Jong suggests that a more open bottom-up approach starting from the data might provide better insights into the ultimate nature of the disorder.

Close attention to the empirical evidence is also advocated by Rice in Chapter 2 where she concentrates on the timing of the acquisition process, the variation within the SLI population, and the comparison with children with Williams syndrome. Rice recommends the use of robust measures of global language acquisition to estimate the degree of variation, and more crosslinguistic studies that would validate and/or further refine her delay-within-delay model.

The relevance of crosslinguistic studies, both for an adequate empirical definition of the disorder, and for a satisfactory theoretical explanation, is central to the contributions by Crago & Paradis (Chapter 3) and Ravid, Levie & Ben-Zvi (Chapter 7). Crago & Paradis challenge the universality of the EOI hypothesis by investigating data from Quebec French and

Inuktitut, and they question the extent to which the errors committed by children with SLI are indeed specific to this population. With respect to the EOI hypothesis they report that, similar to their English-speaking counterparts, French and Inuktitut children with SLI – and typically developing younger children – do have difficulties using appropriate Tense-marked forms. However, unlike English-speaking children, they do not use infinitives as substitutes, either because they do not exist in the target language (Inuktitut), or because they use other non-finite forms as defaults (auxiliary-less past participle constructions in French). In this crosslinguistic comparison the universal component of SLI that emerges is the difficulty with Tense marking, while the use of substitute form is determined by typological considerations, hence it is language-specific. By comparing French-speaking children with SLI to age-matched and language-matched second language learners of French, Crago & Paradis also point out striking similarities between the two groups in the use of non-finite forms in past tense contexts. These findings lead them to question the maturational account of the Tense-marking errors, and the specificity of Tense errors to SLI.

The vital role played by crosslinguistic studies in the characterization of SLI is equally highlighted by Ravid, Levie & Ben-Zvi (Chapter 7). In their studies of the acquisition of derivational morphology in a highly inflected synthetic language like Hebrew, Ravid *et al.* provide new evidence for the importance of investigating the impact of language typology in examining the linguistic abilities of children with SLI.

A number of methodological concerns informing research on SLI are discussed in the second section of the volume, opening with an introduction by Conti-Ramsden. After a brief overview of the four contributions by Leonard (Chapter 8), Mervis & Robinson (Chapter 9), Bol (Chapter 10), and Dromi, Leonard & Blass (Chapter 11), Conti-Ramsden devotes the rest of her chapter to a cognitive-functionalist approach to the disorder. She concludes by stressing the inextricable link between theory and method in shaping current and future research, and by calling for a greater degree of integration between different approaches bringing different insights into the complexity of the phenomena under investigation.

Each of the four chapters in the methodological section of the book draws attention to a specific aspect of the current practices of identification, matching, and data elicitation in children with SLI and control groups. Leonard (Chapter 8) gives a number of very specific guidelines on the criteria for inclusion, the advantages and disadvantages of different types of research designs (group matching, longitudinal studies, treatment studies), and the measures that should be included in every study to allow replicability (a finite morphology verb composite, a performance measure on non-word repetition, and a performance measure on the *ba-da* discrimination task first used by Tallal & Piercy, 1974).

Mervis & Johnson (Chapter 9) deal extensively with a number of methodological issues concerning group-matching designs. This is one of the most common methodologies currently used to compare children with SLI to typically developing children matched on a number of variables, including chronological age, cognitive development, and language (typically as measured by Mean Length of Utterance, MLU). Mervis & Johnson argue that the methodology is riddled with problems: difficulties with the matching procedure, chronological age confounds, and the impossibility of addressing the role of individual variability and disorder heterogeneity, among others. The alternative they propose is based on pair-wise matching, and focuses on individual patterns of performance through the profiling method, rather than on mean differences between groups.

Dissatisfaction with one of the most popular measures of linguistic development is also voiced by Bol (Chapter 10) in his analysis of MLU as a matching tool between impaired and unimpaired groups of children. His main criticism revolves around the inability to determine what MLU measures precisely. Children with SLI are known to omit function words and inflectional morphemes to a greater extent than younger unimpaired children with whom they are matched on MLU. This begs the question of how the children with SLI manage to omit inflectional and free-standing functional morphemes, and still match the younger children on MLU. A thorough investigation of Dutch-speaking children with and without SLI did not give Bol any meaningful insight into the question, and he concludes by tentatively suggesting matching children on vocabulary size, rather than MLU, for a more reliable term of comparison.

The last chapter in the methodological section, by Dromi, Leonard & Blass (Chapter 11), touches upon the benefits to be gained from cross-linguistic studies, and from using complementary sources of spontaneous and elicited data. The crosslinguistic theme is a leitmotif that runs throughout much of the volume, and once again evidence is provided to show that the typological characteristics of the target language are central to an accurate characterization of the deficit that can be applied to languages other than English. The Hebrew-speaking children with SLI in the Dromi *et al.*'s elicitation study do show a number of problems with a particular verb pattern, but not with Tense in general. This suggests that accounts of SLI such as the EOI may have to be refined in the light of new crosslinguistic data.

Section three in part A is devoted to what de Villiers (Chapter 9) defines as the 'specifically, language impairment' issue. The question of interest is the extent to which SLI can be defined by a set of exclusionary criteria that uniquely identify the disorder. Researchers working with atypical populations who display language delay and disorder are beginning to investigate the degree of overlap, and possible comorbidity, between SLI and other developmental disorders such as autism, and Down syndrome. Tager-Flusberg

(Chapter 12) makes a strong case for the overlap of the same phenotypic features of language impairment between a subgroup of children with autism, children with Down syndrome, and children with SLI. Moreover, genetic studies suggest linkage to the same brain region for autism and SLI, and MRI studies have shown similar patterns of atypical brain asymmetry in these two populations. The implications of these findings are quite dramatic for the study of SLI: Specific Language Impairment may not be that 'specific' after all.

In a study of children with Williams syndrome (WS), Clahsen & Temple (Chapter 13) argue that the profile of the morphosyntactic skills in WS is in stark contrast to that shown in SLI. Unlike children with SLI, children affected by WS are unimpaired in aspects of syntax that require feature checking, A-chains, and binding principles. Moreover, differently from children with SLI, children with WS tend to over-apply combinatorial rules for the formation of past tense verb forms, plural nouns, and comparative adjectives. Despite current evidence showing a clear-cut distinction between the two profiles of language impairment, Clahsen & Temple concede that the issue of the uniqueness of the profile to the syndrome remains an open question in need of further comparative study. With respect to the underlying causes of the phenotypic features of WS, they put forward a strong modular view of the language faculty as the most empirically adequate and parsimonious account of the deviant linguistic patterns in the WS data. In their view, the language impairment in WS can be explained in terms of a selective deficit in an intact modular system where combinatorial rules are applied without the required constraints.

The issue of uniqueness of the profile to the syndrome is also taken up by Levy (Chapter 14) in a study of eight Hebrew-speaking children (MLU 2.2–2.9) with a variety of neurological abnormalities related to aspects of syntax, morphology, semantics and pragmatics. The results of the tests could not differentiate either between the atypical children and the controls, or between the children with different neurological abnormalities, despite the heterogeneity of their neurological profiles. Levy's conclusion is that at very early stages of development (below MLU 3) it is virtually impossible to differentiate between atypical and typical children, or between children with different types of neurological impairment.

The chapter by Sandler (15) departs somewhat from the rest of the contributions in the volume in that she does not deal with a disordered population. Her focus is on the role of gesture in sign languages and in spoken languages, and on the complementarity of language and gesture. Rather than considering the manual channel as an alternative mode to the oral channel for linguistic communication, Sandler argues that gesture is an integral part of communication whether spoken or signed. In the oral modality manual gestures supplement the spoken sign, in the manual

modality the mouth supplies the complementary gestures. This integrated view of language and gesture has implications for the study of atypical language development, inasmuch as both channels have to be taken into account to obtain a comprehensive picture of the nature of the disorder.

Part B of the volume (*Towards a Definition of SLI?*) concludes with a chapter by Ben Shalom (Chapter 16) on the relationship between brain research and SLI, and a review chapter by de Villiers (Chapter 17) revisiting the notion of SPECIFICITY in SLI. Ben Shalom focuses on the merit of using exclusionary criteria in the definition of SLI in the face of evidence showing comorbidity between subgroups of autistic children and children with SLI. If the clinical markers of SLI (deficits in Tense production and nonword repetition) are also found to characterize the linguistic profile of a group of children with autistic spectrum disorders, the specificity of SLI is called into question. In order to maintain the uniqueness of the linguistic profile of children with SLI, Ben Shalom argues for the need to find a double dissociation between grammatical processes and other cognitive processes. Similarly, the existence of double dissociations of syntactic and phonological impairment would shed light on the controversial issue of the existence of subgroups within the SLI population.

The chapter by de Villiers (Chapter 17) brings together some of the central questions of the collection: is SLI a different group? Is SLI domain-specific? Is SLI a heterogeneous disorder? Is SLI best characterized in terms of deficit or delay? What can crosslinguistic research tell us about the nature of the disorder? De Villiers concludes by tackling some important methodological questions on developing and adopting tests that both linguists and biologists can agree upon as measuring worthwhile phenotypic features of the disorders.

This edited collection selectively reviews the state of the art in research on developmental language disorders, and deals with topical and controversial issues that are at the top of the current agenda for researchers and clinicians alike. The insights gained into the nature of SLI and other developmental language disorders are carefully scrutinized, and most of the authors call for a much-needed and bold revision of current definition standards for a more comprehensive understanding of what SLI is, and of what its causes may be. The theoretical and methodological implications of these studies will be of interest to a wide audience ranging from linguists and psychologists working in the field of language impairments to clinicians working with patients.

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STEPHEN VON TETZCHNER & NICOLA GROVE, (eds), *Augmentative and alternative communication: developmental issues*. London: Whurr Pub. Ltd., 2003. ISBN: 1 86156 331 0.

Consider this situation: a child's ability to speak is severely compromised; perhaps the child is unable to speak at all. The child is able to hear, and grows up in a world of speakers. The child is taught alternative ways to communicate: perhaps manual signs, pointing to pictures or graphic symbols, perhaps using an electronic device that produces synthesized speech. How does language development unfold in these unusual circumstances? How can we characterize the complex interaction between the child, the social environment, and features of the alternative communication intervention? What do these interactions tell us about communication and language development in general? These questions are addressed in *Augmentative and alternative communication: developmental issues*, edited by Stephen von Tetzchner and Nicola Grove.

This book makes a significant contribution to both clinically motivated and theoretically driven discussions about the communication and language acquisition of children who use augmentative and alternative communication (AAC) systems. All sixteen chapters take a developmental perspective to some aspect of communication or language acquisition in this population. With chapters contributed by researchers and clinicians from twelve countries, the diverse perspectives and interests of the authors provide a rich and informative overview of issues that daily confront people who use AAC and the people who support them. AAC users in six different linguistic communities are described within the chapters of this book. This diversity allows us to consider what may be universal characteristics of language and communication development in the context of AAC, versus aspects that may be particular to a linguistic or cultural community, AAC intervention approach, or clinical population.

The book appears to be written primarily for an audience of individuals familiar with the field of AAC, but it will also be of interest to those who are interested in language development in general. An early chapter by Judith

Oxley starts with a basic description of the sorts of children who find themselves in the situation of requiring AAC. For readers who are not familiar with the clinical area of AAC, this would be a helpful place to start. In subsequent sections of this chapter Oxley provides a concise and comprehensive summary of current thinking about memory and the development of mnemonic and metacognitive strategies, then relates this information to the operational demands of electronic speech-output communication aids.

There are many fascinating chapters in this book. One impressive chapter documents changes over time in the form and content of spontaneous utterances of speaking versus AAC-using children with cerebral palsy (Kaul). Ten Hindi-speaking children with cerebral palsy (5 speaking children and 5 AAC users) were followed over a period of 19 months. During that time, two interventions were conducted for the AAC users, a redesign of their communication boards to improve access and include more vocabulary and morphology, and a workshop for communication partners focusing on strategies to enhance the AAC users' participation in conversations. Kaul's chapter is full of interesting data and discussion, and provides an important contribution to the discussion of expressive language development by children who use AAC.

Another chapter of interest is a description of the different interaction styles of two parents of an AAC user, framed by information on father-child interactions in typically developing children, and a review of the literature on the relationships between interaction styles and language acquisition (Smith). This is the first discussion I have seen about the possible role of gender differences in partners' interaction styles related to AAC. Given the enormous impact of partner facilitation (or lack thereof) on the communication effectiveness of AAC users, the information in this chapter is highly pertinent and thought-provoking.

The field of AAC is relatively young, and conditions that result in the need for AAC interventions are thankfully rare. It is really only since the early 1980's that a large number of individuals with complex communication needs were provided with opportunities to learn to communicate via AAC. As this cohort of AAC users reaches adulthood, we have the opportunity to look back at their development and reflect on what we have learned in the past twenty-five years. With several longitudinal case descriptions this book makes a valuable, unique, and timely contribution to the literature.

The communication development of several graphic-symbol-using individuals with cerebral palsy is described retrospectively. These individuals include: a Norwegian male from age five to thirteen years using Pictograms then Blissymbols (Brekke & von Tetzchner); an Israeli male from birth to age twenty using pictures then Blissymbols (Soto & Seligman-Wine); and a Canadian female using Blissymbols from birth to age thirty (McNaughton). Other chapters document communication development of individuals who

have been taught manual signs. These include chapters describing communication development of 12 Finnish individuals learning manual signs from birth to age eight (Launonen), and a Finnish male using manual signs and gradually increasing speech from birth to age seventeen years (Launonen & Grove). In reading these accounts one is struck and inspired by the descriptions of achievement continuing on long into adulthood, including descriptions of individuals acquiring speech long past the typical window of time, and documentation of significant gains in literacy during adulthood.

Several chapters explore narratives by AAC users. Grove & Tucker analyse the narratives in manual signs by children with intellectual impairments, comparing them with narratives in typical development. Waller & O'Mara examine the impact of the provision of a story-based communication device and 2 hours of intervention per week on the narratives of two individuals over the course of a year. Tavares & Peixoto describe an intervention programme for youth with cerebral palsy and discuss narratives within this context.

Those interested in educational issues will find several chapters of interest. Soto & von Tetzchner discuss the advantages of inclusive educational environments and summarize reports on interventions (conversation books, peer buddy systems, and interactive activities) that have proven effective in increasing interactions between children who use AAC and their speaking cohorts. In contrast, and from her perspective as an experienced and respected educator, McNaughton's chapter includes a rare and frank discussion of some of the drawbacks and challenges of current inclusive educational practices.

For professionals who support individuals who use AAC, this book is an invitation to reflect on what we know about human development and how this might relate to and guide our interventions. It also invites us to examine what we have learned from individuals who have grown up using AAC, and who have sometimes had to endure our well-intentioned but less-than-optimal efforts to help. Von Tetzchner and Grove have assembled a book that makes a significant contribution to the AAC literature.

For individuals interested in child development and/or language development in general, this book provides information about the developmental course in extremely unusual situations. This perspective can assist in examining the range of factors contributing to language development, and delineating the diversity of possible pathways towards communicative competence.

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