

Introduction

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This special issue of *Linguistics* is devoted to recent findings about children with specific language impairment (henceforth SLI) learning different first and second languages. Children with SLI form a subgroup of those language users who have problems acquiring their mother tongue. Traditionally, at least four criteria have helped to differentiate this group from other children with language disorders: children with SLI are supposed to have a nonverbal IQ within normal range, and they do not suffer from vision or hearing problems nor from any known neurological or social-emotional disturbances serious enough to cause difficulties in language learning. In the last ten years these criteria have been called into doubt. Partly due to their language-learning problems, these children have been found to suffer from other cognitive problems as well (e.g. Johnston 1994) and are often limited in their social well-being (e.g. Rice 1993). Clearly some biological factors are involved; SLI “runs in families” (Bishop 1992; Tomblin and Buckwalter 1994). However, no specific genetic constellation has been reliably made out yet. Roughly, boys and girls are affected in a ratio of 3:1.

In terms of language-learning difficulties, these children do not form a homogeneous group. Many of them are identified on the basis of deficits in production, mostly in morphosyntax, but also in semantics and pragmatics. Children’s performance is about 1 to 2 standard deviations below the mean on standardized tests. Moreover, there is a growing body of literature documenting that children’s comprehension is affected as well. Articulation problems are often found in association with SLI (for a more comprehensive survey cf. Leonard 1998).

The papers in this issue all come from researchers who are members of the “European Group of Child Language Disorders” (abbreviated EUCLDIS). This group was founded in 1987 to provide an informal forum for linguists, psycholinguists, and psychologists to discuss ongoing studies and recent findings in the field of SLI. Today one to four researchers from Sweden, Norway, England, The Netherlands, France, Spain,

Italy, Croatia, and Germany, as well as from Israel, the US, Canada, and China (Hong Kong) participate. The meetings are held every other year and are hosted by a different European country.¹ Given the diversity of languages represented in EUCLDIS, the aim of the group is to study both language-specific and cross-linguistic aspects to narrow down possible explanations of SLI.

The contributions in this special issue document a wide range of phenomena in SLI: three papers are concerned with the use of verb morphology, in particular tense marking in French, in Swedish, and in English; one contribution deals with aspect marking in Cantonese; three papers study comprehension and semantics: of verb meaning, of sentences, and of contextual information in German or English; and one paper is concerned with SLI children learning both Arabic and Swedish.

In her paper Jakubowicz addresses the question of how SLI children acquire tense. In previous studies on French she and her colleagues found that children with SLI have more problems producing past tense, in particular *passé composé*, than present tense. Thus children are not considered to have a special problem with tense *per se*. Within the minimalist framework Jakubowicz reexamines the “computational complexity hypothesis,” which predicts that children have more problems computing additional functional categories added to the clause as in the *passé composé* and, most of all, in the pluperfect. The alternative hypothesis is the “morphological salience hypothesis,” which holds that children fare better in those cases where the auxiliary is marked for past. The results support the first hypothesis, since children with SLI (like the younger control children) try to avoid the pluperfect.

Hansson and Leonard pinpoint a rather selective deficit in Swedish children with SLI. The children are observed to have difficulties not with tense *per se* but rather with the present tense of the copula verb and the past tense of regular verbs, while at the same time being as proficient as younger and age-matched controls in using the present tense with main verbs and the past tense of irregular verbs. The authors replicate earlier findings by Hansson and her colleagues in spontaneous data and add a number of probes for the relevant tense markers, including a task on the inflection of nonce verbs. Hansson and Leonard test the “memorization hypothesis” of Clahsen and Hansen (1997), which claims that correct forms may be memorized. This hypothesis is not confirmed. Overall the children with SLI are found to be less accurate in the probes than in spontaneous speech, yet their most serious problem is the nonce-verbs task.

In their contribution Serratrice, Joseph, and Conti-Ramsden investigate the inflection of past irregular and regular verb forms by English-

learning children. This study is based on longitudinal data from ten months of audio-recording at a fortnightly interval, an extremely rare data type in the research on SLI children. The three participants were between three and four years old, matched on MLU to eleven normal controls. The authors observe that, in contrast to results in the literature, the children's verb forms in past tense contexts were not significantly better for irregular or regular forms; moreover, no significant improvement was found in the children's behavior in the period shortly before or after the phase of overgeneralizations. This held true for both the SLI children and the controls. Furthermore, the authors examine the input of the mothers. Since little is known about English-speaking mothers of SLI children, the input of the mothers of the control children was chosen. The authors find that maternal input accounts for 74% of the variance in the distribution of past tense forms in the SLI children's speech and for 47.6% in those of the MLU group. Thus maternal input can account for half to two-thirds of the children's productions of verb forms.

Research on children with SLI learning Chinese has only just begun. In their paper Stokes and Fletcher study aspect marking in children with SLI learning Cantonese. Aspect markers are, unlike grammatical morphology in Indo-European languages, optional. A lack of usage, however, marks a poor speaker of Cantonese. The authors analyze children's productions in three different contexts and find that in the repetition task children's performance is similar with regard to three of the four aspect markers. But in the narrative of a video film and in conversation there are significant group differences, both quantitatively and qualitatively. Besides omitting aspect markers, the children with SLI seem to be less able to manipulate grammatical aspect independently of lexical aspect and to employ aspect markers context-sensitively in restricting the set of interpretations by expressing the speaker's viewpoint.

The contribution by Penner, Schulz, and Wymann is concerned with the issue of how normally developing and language-impaired children bootstrap the meanings of first verbs in German. The study is based on both spontaneous speech and comprehension experiments. The data collection comprises the period between the onset of the one-word stage and the eighth birthday. The authors show that normally developing children first acquire the event-structure component of verb meaning, initially focusing on the endstate (or result) subevent. No such sensitivity to the endstate part of the event structure can be observed in the SLI group. The authors conclude that there is substantial difference between the two groups with regard to the learning algorithms employed in acquiring the meanings of verbs. It is proposed that these findings can be accounted for in terms of violations of learnability-driven constraints,

which characterize the language of impaired children but not the language of normally developing children.

Lindner's paper addresses the question of sentence comprehension in German-learning children with and without SLI, studying the importance of animacy, case and agreement markers, and word order. The theoretical framework is the competition model developed by Bates and MacWhinney (1989). It is hypothesized that due to "cue costs," here greater demands on working memory, children of either population proceed from local to distributed cues: they first appreciate the cue animacy that can be processed "on the spot" before they turn to more distributed cues leading ultimately up to subject-verb agreement, which presupposes the comparison of various constituents before an interpretation can be established. In two experiments, one with distinct, the other with neutralized case marking, it is shown that the typically developing children prefer first animacy, then case marking, and finally verb agreement, while moving from animacy to the initial NP and then to agreement when case marking is ambiguous. The SLI children, however, do not seem to acknowledge distinct case markers to any large extent in the first experiment, yet they are irritated if such distinctions are lacking; in the second experiment they predominantly resort to animacy.

Leinonen, Ryder, Ellis, and Hammond explore how the relevance theory of Sperber and Wilson (1995) can be used to examine pragmatic comprehension skills in children with SLI. The children were asked questions based on a storybook, which required different degrees of contextual processing such as establishing reference, the resolution of semantic underdeterminations, and the resolution of an implicature. The authors show that SLI children at the age of 8;0-10;0 perform significantly worse than their chronological-age peers in all three types of task, most significantly in relation to the cases of semantic underdetermination and implicature. Thus SLI children have difficulties in using contextual information. No correlation could be established between the SLI children's grammatical skills and their processing ability. This finding shows that the underlying disabilities of SLI children are "deeper" than the traditional morphosyntactic deficits.

Last but not least, Håkansson, Samleh, and Nettelbladt add an issue to the research on SLI that is becoming more and more important: the difficulties of bilingual children with SLI. One problem that is raised quite often is that children's performance in their first language is unknown or extremely difficult to assess, for example due to missing test materials, the nonavailability of a linguistically trained speaker well versed in the target language, or missing or scarce developmental data of typically developing children. Håkansson et al. tackle this problem in

applying a model derived from Levelt (1989), the “processability theory” (Pienemann 1998). They introduce a hierarchy of developing grammatical structures as a basis for their analysis of elicited data from children’s first and second languages, Arabic and Swedish. The authors show that children with SLI stagnate in both languages at a very early stage, whereas the age-matched controls incrementally extend their linguistic structures in at least one language to more advanced levels.

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Notes

1. The meetings took place at Leicester, England, in 1988, Røros, Norway in 1990, Lund, Sweden, in 1992, Garderen, The Netherlands, in 1994, and Barcelona, Spain, in 1998, and at Schloß Maurach at Lake Konstanz, Germany, in 2000. Selected papers from the first, third, and fourth meeting have been published as well as the proceedings from the second meeting; cf. *Clinical Linguistics and Phonetics* (1990: 4[1], 25–92), Mjaavattn et al. (1991), Nettelbladt et al. (1992), and Baker et al. (1997).

References

- Baker, Anne E.; Beers, Mieke; Bol, Gerald; de Jong, Jan; and Leemans, Geertje (eds.) (1997). *Child Disorders in a Cross-Linguistic Perspective: Papers of the Fourth Symposium of the European Group on Child Language Disorders*. Amsterdam Series in Child Language Development 6, Publ. 71. Amsterdam: Algemene Taalwetenschap, University of Amsterdam.
- Bates, Elizabeth; and MacWhinney, Brian (1989). Functionalism and the competition model. In *The Cross-Linguistic Study of Sentence Processing*, Brian MacWhinney et al. (eds.), 3–73. Cambridge: Cambridge University Press.
- Bishop, Dorothy V. M. (1992). The biological basis of specific language impairment. In *Specific Speech and Language Disorders in Children*, Paul Fletcher et al. (eds.), 2–17. London: Whurr.
- Clahsen, Harald; and Hansen, Detlef (1997). The grammatical agreement deficit in specific language impairment: evidence from therapy experiments. In *The Inheritance and Innateness of Grammars*, Myrna Gopnik (ed.), 141–160. Oxford: Oxford University Press.
- Johnston, Judith R. (1994). Cognitive abilities of children with language impairment. In *Specific Language Impairments in Children*, Ruth Watkins et al. (eds.), 107–122. Baltimore, MD: Paul Brookes.
- Leonard, Laurence (1998). *Children with Specific Language Impairment*. Cambridge, MA: MIT Press.
- Levelt, William J. M. (1989). *Speaking: From Intention to Articulation*. Cambridge, MA: MIT Press.

- Mjaavatt, Per E.; Feilberg, Julie; and Hagtvedt, Bente (eds.) (1991). *The Proceedings of the Conference on Child Language Disorders*. Røros, Norway, March 17–21, 1990. Norwegian Centre for Child Research. Report 24. Trondheim: University of Trondheim.
- Nettelbladt, Ulrika; Hansson, Kristina; Nauclér, Kerstin; and Magnusson, Eva (eds.) (1992). *Scandinavian Journal of Logopedics and Phoniatics* 17(1) (special issue): Papers from the Third Meeting of the European Group for Child Language Disorders.
- Pienemann, Manfred (1998). *Language Processing and Second Language Development. Processability Theory*. Amsterdam: Benjamins.
- Rice, Mabel L. (1993). Don't talk to him; he's weird: a social consequences account of language and social interactions. In *Enhancing Children's Communication: Research Foundations for Intervention*, Ann P. Kaiser et al. (eds.), 139–158. Baltimore, MD: Paul Brookes.
- Sperber, Dan; and Wilson, Deirdre (1995). *Relevance Communication and Cognition*, 2nd ed. Oxford: Blackwell.
- Tomblin, J. Bruce; and Buckwalter, Paula (1994). Studies of genetics of specific language impairment. In *Specific Language Impairments in Children*, Ruth Watkins et al. (eds.), 17–34. Baltimore, MD: Paul Brookes.