for children in non-dominant cultures. In addition, this volume is a welcome addition to the library of any researcher interested in language issues in indigenous communities.

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ANNE BAKER & BENCIE WOLL (eds), *Sign language acquisition* (Vol. 14). Amsterdam/Philadelphia: John Benjamins Publishing Company, 2008. Pp. 178. ISBN: 978-9-02-722244-2.

Research in sign language acquisition offers an invaluable perspective on language acquisition. However, as research in sign language acquisition has only begun relatively recently, standardized methodology across researchers is virtually absent from the field. This lack of standardization and efficiency both impedes collaboration between established researchers, and hinders the beginning sign language researcher. Without even an agreed upon and efficient transcription system, or clear standards about what typical sign language input is, methodological issues can easily overwhelm the new researcher. *Sign Language Acquisition* addresses this problem by providing consideration of several key issues in sign language acquisition research. The papers are drawn from talks and discussions from the workshop on acquisition at the seventh international conference of Theoretical Issues in Sign Language Research (TISLR) in 2000. The contributing authors consider challenges encountered in all types of language acquisition work, but primarily focus on those issues specific to work with children acquiring sign languages. The result is an excellent introduction to the methodological issues surrounding sign language research.

In Chapter 1, Anne Baker, Beppie van den Bogaerde and Bencie Woll provide a chapter full of guidance invaluable to any beginning sign language researcher. They cover topics of basic experimental design, including subject selection, data collection and good coding practice, giving extensive consideration to issues specific to sign language research. As the vast majority of deaf children are not born into signing families, the linguistic environments of deaf children are much more varied than those of hearing children. In the 'Subject Selection' section, the authors point out the importance of factors such as age of onset of deafness, degree of hearing loss and parental skill in signing in order to understand just what linguistic input a child is receiving. They continue by describing the challenges faced in transcribing sign language data, and consider available software transcription packages. They also highlight important problems likely to be faced by any researcher, such

956

as differentiating early gestures from early signs, and capturing the many simultaneously expressed linguistic elements in signing. They address the issues of selecting the appropriate level of linguistic unit for transcription, and of the lack of a standardized equivalent of the International Phonetic Alphabet (IPA) for transcribing sign language phonology. At the end of their chapter, the authors provide a useful chart summarizing typical ages for reaching sign language acquisition milestones, ranging from manual babbling toward the end of the first year of life, to full grammatical mastery of spatial verb and classifier production in the ninth year. In short, the topics covered in this chapter present wisdom gained by these researchers over years of collecting sign language acquisition data.

In Chapter 2, Tobias Haug reviews existing sign language assessment instruments. He divides existing assessment tools into three categories: (i) those intended to assess progress in sign language acquisition by children and plan intervention; (ii) those with educational purposes, such as relating signing competence and literacy development; and (iii) those intended for linguistic research on sign languages. Haug describes and evaluates each of the assessments individually in terms of their procedure, standardization, usability, availability, and specific strengths and weaknesses. He pays special attention to the challenges of assessing and reporting psychometric properties of the tests; for example, the question of whether to standardize tests based on the performance of deaf children of deaf parents. Less variation in fluency is seen among these signers, but this population makes up a small fraction of all deaf individuals. Overall, Haug finds several major problems with most of the extent assessment instruments, including:

(1) There are few tools available to assess the signing of children under the age of 3 years or adolescents between the age of 12 and 15 years.
(2) Important areas of language competence such as phonology, the lexicon, pragmatics and communicative competence have been paid insufficient attention by those developing assessments.
(3) Many of the tests are based on research on the grammar of American Sign Language, and not on the grammar of the sign language to be assessed by the instrument.
(4) Information on reliability and validity is not available for most instruments.
(5) Almost none of the instruments are currently publicly or commercially available.

Haug calls for more work on instruments for use in non-research contexts, especially those to screen deaf children for language acquisition difficulty and those to assess the skills of second language learners of a sign language. Anyone developing new assessment tools, or using established ones, would do well to give thought to the issues considered in this chapter.

In the third chapter, Ritva Takkinen evaluates the merits and drawbacks of the Hamburg Notation System for Sign Languages (HamNoSys). As Takkinen points out, notation for sign language transcription has been a problem for as long as sign languages have been studied. A common phonetic notation system used across sign languages, akin to the IPA, would certainly enable sign language researchers to collaborate more effectively. The description provided in this chapter is not sufficiently detailed to provide an introduction to the HamNoSys for the beginning student of sign language transcription, but the author does give a brief description of how the system is intended to capture a sign's phonetic components: symmetry, non-manual components, handshape, hand position, location and action (movement). Takkinen then proceeds to evaluate the appropriateness of the system for use in studies of sign language acquisition by using it to track the acquisition of three deaf children acquiring Finnish Sign Language. Though she finds the system to be far superior to its predecessors (such as the Stokoe system) in level of detail and accuracy, the HamNoSys is still limited in some ways when it comes to tracking child sign language acquisition. For example, in order to accurately track the phonetic development of a child's signing, a notation system must be able to capture all possible handshapes, including those that are 'illegal' in the adult version of the target sign language, as these handshapes may be produced by a child. In this respect, the HamNoSys is limited in that it does not provide sufficiently detailed description of possible degrees of thumb extension and flexion, does not provide a systematic grouping-of-signs-by-finger selection, and fails to include a fine-grained analysis of the degree of finger extension of a sign. Additionally, it does not use the body as a reference point for descriptions of palm orientation and curved movement. Despite these drawbacks, Takkinen concludes that, with some modifications, the HamNoSys is a good candidate for a common notation system, which could be used by sign researchers worldwide. In addition to evaluating the HamNoSys, this chapter provides a helpful introduction to the problems of developing a transcription system for child sign language data. It is useful reading for researchers or students beginning to deal with the issue of how to capture their data in a useful static form.

In Chapter 4 Gary Morgan describes the special challenges of sign language transcription for investigating questions of acquisition at a more macro level, such as that of narrative structure. As he points out, transcriptions of sign language data at present are often not electronically searchable, and, due to the lack of a normative system for transcription, are difficult to share with other researchers. Morgan notes that any adequate transcription system must be both searchable and shareable. Such a system must also capture the realities of child signing, accurately de-scribing the variable and immature sign forms sometimes produced by

children whose fine motor control and pragmatic knowledge are still maturing.

Morgan then focuses on two aspects of the use of space in signed languages that prove particularly difficult to capture in a static transcription: verb agreement and the use and reuse of space for co-reference and co-occurrence in narrative. He reminds the reader that a gloss and diacritic based transcription like '$_1$give$_2$,,' is suboptimal for two reasons: it fails to indicate on which part of the sign the agreement is marked, and it relies on a translation to English, making analysis of the actual sign form impossible. An adequate transcription must capture not only how space is used for co-reference over the course of a narrative, but also the fact that the same space may be used and reused over the course of the narrative. A transcription system must capture this dynamic updating of the grammatical space to show how noun phrases, pronouns, classifiers and role shift all link with one another in order to indicate co-reference or co-occurrence. A comprehensive system that encodes all of these features is absolutely crucial if one is ever to be able to track their developing forms in children. Morgan concludes with a brief description of his own 'dynamic space transcription' system as a possible solution to this problem. Extensive description of the system is not provided, but readers interested in these issues would do well to learn more about it and its ability to capture emergent spatial grammar in children acquiring sign languages.

In the fifth chapter, Sandra Smith and Rachel Sutton-Spence investigate strategies for attention-getting in interaction with deaf children. After a brief literature review of the research on deaf adults' attention-seeking strategies, and research on strategies used by mothers to obtain the attention of young (hearing) children, the authors proceed to observe the strategies that the adults and children in the classroom used in order to elicit attention from others. Extensive demographic data is not given on the children participating in the study, but we do know that they were all between 3 and 5 years old, that none had native signing parents, and that the children had widely varied levels of signing competence themselves.

Smith and Sutton-Spence found that while deaf adults and children used some of the same attention-getting strategies, the strategy sets were not wholly overlapping. Adults most commonly used waving strategies to elicit attention from children, and sometimes tapping. Variation was also seen in adult strategy based on the activity, degree of urgency of the attention seeking, and the level of signing skill of the child addressee. Children used tapping and touching strategies most often, and waving less often, but variation was seen among children. Across children, more adult-like attention-getting behaviors were associated with greater social and linguistic skill, meaning that learning these strategies may be a key skill on the road to linguistic competence. As learning these behaviors seems to be an essential

959

step in becoming a proficient signer, the authors argue for the substantial benefits of all deaf early environments in which deaf children can learn appropriate social strategies from deaf adults. Hearing adults who work with deaf children could learn much from the effective strategies intuitively used by deaf adults. Furthermore, tracking these attention-getting strategies could be useful for assessing child language competence at the earliest stages of acquisition. Researchers studying children just beginning to acquire a sign language may find it useful to track these behaviors in their analyses.

In the final chapter, Beppie van den Bogaerde and Anne Baker discuss the complexities of characterizing the actual language input to deaf children, even when they have deaf parents, due to code-mixing of spoken and sign languages in deaf families. They begin by reviewing the difficulties of defining code-mixing in deaf individuals' language production. Due to the two languages being produced in different modalities, simultaneous production of components from both languages is common, making spoken language definitions of code-mixing at best tricky to apply. Furthermore, just determining if an utterance is mixed can be difficult due to the movement of the mouth in both signing and speaking. The authors settle on a strict definition of code-mixing (based on Muysken 2000), in which some of an utterance's meaning is communicated exclusively in each modality. In order to understand the semantic content of the utterance then, both signs and spoken words must be considered.

Van den Bogaerde and Baker look at the mixed modality language produced by four deaf mothers and their three deaf and three hearing children in the Netherlands. These families represent a diverse group of deaf families, in terms of both the parents and children. Some of the deaf parents were raised by deaf parents themselves, while some had hearing parents. Some families contained several deaf children, some just one deaf child, and some both deaf and hearing children. Despite the diverse make-up of the group, common patterns emerged across all participants. Deaf mothers engaged in extensive code-mixing when communicating with either hearing or deaf children. Most of the mothers' code-mixing falls into the category of congruent lexicalization, or producing lexical elements from each of the languages in structures which are grammatically acceptable in both languages. Hearing children's code-mixing resembled that of their deaf mothers. Deaf children were the only group who did not extensively code-mix, likely due to their only just emerging knowledge of Dutch. Though the authors do not provide a quantitative summary of child output, they do provide figures for each child and each mother, allowing examination of variation in child output for comparison with input.

The title of this volume, *Sign Language Acquisition*, is somewhat misleading for a book focused entirely on issues of methodology. This book is key reading for anyone interested in working in sign language acquisition.

However, it is not a book for those who are interested in an introduction to what sign language acquisition can say about language acquisition in general. This is an invaluable book for those working in the field of sign language acquisition, or for those who wish to be. The first chapter by Baker, van den Bogaerde and Woll, is of broadest interest, and should be essential reading for any student or research assistant interested in carrying out a project in sign language acquisition. The wealth of information provided from years of accumulated research experience can help beginning researchers avoid many common problems and mistakes, and lead them to consider essential topics so as not to waste valuable time and resources.

A major strength of the volume is its consideration of data from children from many cultures acquiring a wide variety of sign languages, including American, Australian, Dutch and Finnish sign languages. Though there are not necessarily strong thematic links between the chapters, each is a useful reading in its own right. Furthermore, the consideration given in several chapters to the wide variety of language environments faced by children acquiring sign languages, as well as the issues of how to deal with capturing the simultaneity in sign language production, provides food for thought for all who are interested in sign language acquisition research.

Sign language acquisition can be an intimidating field to enter. In addition to the methodological challenges of language acquisition research in general, working with sign languages provides special challenges to the beginning researcher. This volume provides a great starting point for those interested in working in the field who do not know quite where to begin. It merits a place on the shelf of any student or researcher of sign language acquisition.

REFERENCE

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