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REVIEWS

DANA MCDANIEL, CECILE MCKEE & HELEN SMITH CAIRNS (eds), *Methods for assessing children's syntax*. Cambridge, MA: MIT Press, 1996. Pp. xviii + 390.

The investigation of children's language development has undergone significant methodological developments in the last decade. The book *Methods for assessing children's syntax* (MACS) offers researchers a useful overview of current research methods, and provides a worthy addition to the research manuals of Slobin (1967), Ochs & Schieffelin (1979), and Miller (1981). MACS will be essential reading when facing a critical grant deadline, or contemplating a new research endeavour. These research methods set the field of acquisition research apart from its parent disciplines of linguistics and psychology, and require careful consideration when interpreting findings. Designing a language acquisition experiment is still an art, and researchers can gain valuable insights into their craft from this book.

MACS's fourteen chapters are divided into four sections, which focus on production, comprehension, and judgement methods, and more general issues. All of the chapters focus on applying the techniques to assess children's syntactic development. The authors of each chapter keep the theoretical discussions brief in an effort to highlight the experimental techniques. A shared structure ties the chapters together and allows the reader to compare methods easily. The chapters in each section provide examples of a specific research method and brief histories of the technique's application in language acquisition research. The authors include assessments of the advantages and disadvantages of the techniques and point out ways to improve the techniques as well as mistakes to avoid.

The first section on production data includes discussion of both spontaneous and elicited production data. Katherine Demuth provides a brief introduction to the collection of spontaneous production data. In an age when the experimental approach reigns supreme, the importance of collecting children's spontaneous language data can be overlooked. Demuth notes that the greatest advantage of such data are that they provide a picture of the overall course of development for a language. This documentation is especially useful for languages where existing developmental data are slight or entirely absent, and should regularly accompany the collection of adult data for undocumented languages. Spontaneous production data also supply the least artificial snapshot of a child's grammar, setting the bar for ecological validity that all other approaches hope to equal. Demuth draws on her experiences documenting the acquisition of Sesotho to illustrate various

aspects of recording and transcribing spontaneous data, including the selection of subjects and the recording situation.

Karin Stromswold discusses the analysis of children's spontaneous productions from a theory-testing perspective. She describes errors of omission and errors of commission and how to test the significance of the difference between the predicted and observed errors. Stromswold illustrates her discussion with examples of her research on the acquisition of questions. Her discussion of the problem of determining the point of acquisition is particularly useful. She concludes that there are advantages to using both an age of mastery (90% or 75% presence in obligatory contexts) and the age of first use of a clear, novel example.

Barbara Lust, Suzanne Flynn, and Claire Foley discuss the pros and cons of elicited imitation data. Success hinges on eliciting theoretically significant, systematic changes to the linguistic stimuli. Lust et al. discuss applications of the method to control structures, constituent order, functional morphemes, branching direction, and the directionality of anaphora. They observe that it is essential to give children plenty of time to imitate before jumping in to help. Their chapter is one of three chapters that advocate using the technique in a cross-linguistic design. However, my experience with K'iche' children suggests that significant cultural differences in when and how adults address children require careful consideration on the part of the researcher. We currently lack a psycholinguistic theory that would predict which aspects of children's grammars can be probed through imitation studies.

Rosalind Thornton covers elicited production techniques in her chapter. This method requires finding a context that is uniquely associated with the targeted structure, and then using a lead-in statement to elicit the child's production. Thornton notes that the technique is useful for highlighting what children can and cannot say. The most famous example of elicited production is Jean Berko Gleason's Wug task (Berko 1958), but Thornton provides references to other studies that have used the technique as well. Thornton warns that the technique works best for children 3 years of age and above. Thornton includes an insightful discussion of the felicity conditions needed to motivate the elicited utterances. She also discusses a case where the elicited production technique cannot be used. Her example nicely illustrates the limitations of this technique. Unfortunately, all of Thornton's examples involve eliciting questions from children. She does not discuss the elicitation of other sentence modalities.

Kathy Hirsh-Pasek and Roberta Michnick Golinkoff lead off the section on comprehension methods with a presentation of the intermodal preferential looking paradigm. This technique presents a child with two television monitors that display different scenes, one of which matches a linguistic stimulus. The researcher then monitors the time that the child looks at each

video display. The linguistic stimulus is thought to affect the child's behaviour when a significant difference emerges in the time that the child looks at the two displays. Hirsh-Pasek and Golinkoff note that the paradigm has been used with children between 12 months and 4 years of age. Between 15% and 50% of subjects do not complete the study, with the youngest subjects being responsible for the highest losses. Thus far, the preferential looking technique has not been directly tested against more traditional comprehension tasks to define its advantages.

LouAnn Gerken & Michele E. Shady discuss picture selection tasks. These tasks ask subjects to select a picture that best represents a linguistic stimulus. Picture selection tasks are widely used to assess children's phonological, syntactic and lexical development. Gerken & Shady describe several classic studies that used a picture selection format, including Fraser, Bellugi & Brown (1963). Gerken & Shady distinguish between picture selection tasks that assess the semantic interpretation of particular morphosyntactic contrasts and picture selection tasks that assess morphosyntactic grammaticality. In the latter case, the experimenters present subjects with linguistic stimuli of varying degrees of grammaticality, e.g., 'The girl am flying a kite.' Children with MLUs under 1.5 perform better with grammatical stimuli than with ungrammatical stimuli (Gerken & McIntosh 1993b). Gerken & Shady discuss several methodological concerns including the salience of the target and distractor pictures. They note that the grammaticality detection task seems to have an upper age limit of 30 to 36 months. They end with a thoughtful comparison of picture selection tasks with other methods.

Helen Goodluck discusses act-out tasks in her chapter. In act-out tasks, subjects act out a task indicated by the linguistic stimulus. Success hinges on whether the subjects perform according to the expectations of the experimenter. Goodluck provides a table that lists many of the studies that have used this method. The task is easy to administer and fun for the subjects, but results can be difficult to interpret when subjects do unexpected things. A response bias may set in early for subjects, such as always making themselves the agent performing the action. Children under three years of age do not perform very well on act-out tasks.

Jill de Villiers & Thomas Roeper contribute a chapter on using stories to control the experimental context. They argue that stories can pragmatically motivate the use of complex sentences that are needed to test three-and-a-half-year-olds' knowledge of principles of Universal Grammar. De Villiers & Roeper have added the refinement of using ambiguous questions to their tasks to insure that subjects do not have any biases against either of two possible responses. They balance these questions with questions where a syntactic principle should restrict the subject's response. De Villiers & Roeper include a discussion of factors that can skew the children's responses to these questions, including sentence prosody. Their bar-graphs show that

the presence of a syntactic barrier in questions neutralizes the effect of prosody on the children's interpretations. De Villiers & Roeper end with a discussion of the difficulty of interpreting some of the children's responses.

Cecile McKee describes several on-line methods in her chapter, including neuroimaging, reaction-time measures, monitoring tasks, and priming tasks. McKee discusses a cross-modal priming test of children's pronoun interpretation and notes that one drawback is that it is challenging for children under 4 years of age. In cross-modal priming tasks, subjects listen to a sentence while a picture is flashed on a screen. Subjects make a decision about the pictures (e.g. whether the entity in the picture is alive or edible), and press a button to signal their decision. The researcher measures the time between the onset of the visual presentation and the subject's reaction. A priming effect between the visual and auditory modalities should be evident in significantly reduced reaction times. The procedure is extremely sensitive to the presentation timing for the visual and auditory stimuli as well as the salience of the pictures. McKee provides a thorough discussion of the design features involved in the procedure. The advantage of the procedure is that researchers can monitor a subject's linguistic processing directly without asking additional questions.

Peter Gordon begins the section on judgement data with a chapter on the truth-value judgement task. These tasks ask subjects to respond with either a 'yes' or 'no' to questions, or reward a puppet for making a true statement. Gordon discusses contradictory findings from Philip (1991) and Crain & Wexler (1999) on the development of universal quantifiers. Such differences illustrate children's sensitivity to the visual saliency of the quantified objects. Gordon also notes that he recently discovered that the truth-value judgement task could not be used with the Kadiweu tribe in southern Brazil since the children there were not familiar with puppets and since Kadiweu has no words for *yes* and *no*. Gordon states that truth-value judgement tasks can only be used to study the development of statements and not questions. This makes truth-value judgement tasks a good complement to the elicited production tasks that Thornton describes.

Dana McDaniel and Helen Smith Cairns cover grammaticality judgement tasks in their chapter. They note that until recently syntacticians did not recognize the experimental nature of the grammaticality judgements they elicited informally from adults, and child language researchers assumed that children did not possess the cognitive skills necessary to form valid grammaticality judgements. McDaniel and Cairns argue that grammaticality judgement tasks with children can help bridge the gulf between studies of syntax in children and adults. They offer a set of suggestions for training and pretesting children as well as ways for eliciting children's grammaticality judgements. They find that grammaticality judgement tasks are effective

with children over three years of age, and recommend using an adult control group to check the researcher's intuitions.

The final section of the book discusses cross-linguistic investigations, assessing language in children with language problems, and statistical techniques. Celia Jakubowicz limits her discussion of cross-linguistic investigation to a couple of studies using the principles and parameters framework, although she mentions Bowerman's (1973) study of early syntactic development in Finnish, American, Luo and Samoan children in a brief historical note. One useful section in her chapter is a discussion of the necessity of using similar syntactic structures in the languages under investigation. Unfortunately, Jakubowicz restricts her discussion to a comparison of French and Danish, and so fails to address cases of extreme typological differences exemplified in polysynthetic languages, e.g. Inuktitut (Allen 1994).

Laurence B. Leonard's discussion of the morphosyntax of children with language disorders is also relevant to the linguistic analysis of normally developing children's speech. He observes that 5% of all 5-year-olds have a specific language impairment, and another 3% of all children have mental retardation. Each of these populations exhibits some form of language impairment that provides additional constraints on the scope of acquisition theory. Leonard is the only author in MACS who addresses the language of children from minority populations, and he provides a useful introduction to the linguistic heterogeneity that exists within all populations. Leonard describes several standardized tests that are commonly used by speech clinicians, but may be unfamiliar to linguists. He also provides a useful discussion of tests that might be used to insure the comparability of language samples from cross-linguistic studies. He notes that there are significant differences among developed countries in the age at which children are identified as language impaired. Language measures such as MLU are impractical in cross-linguistic studies where the languages being compared differ in morphological complexity. Leonard suggests computing an MLU in words rather than in morphemes in such cases, but this is obviously one methodological consideration that requires further refinement.

The final chapter in MACS by Jennifer Ryan Hsu and Louis Michael Hsu provides a general overview of research design and data analysis issues. They include an extremely helpful introduction to the statistical analysis of language data. They describe specific examples of both parametric and nonparametric tests and refer to both statistical software packages and books that researchers can consult for further details.

One of the features that sets MACS apart from other research manuals is the inclusion of specific examples of each experimental technique. These models will help students quickly master the nuances of each technique.

Many of the chapters also provide helpful suggestions for analysing the data obtained through these methods. While the authors of each chapter serve as advocates for their specific method, many discuss factors that can lead to failure. Such frank evaluations make it possible to assess the advantages of each technique much more realistically. MACS is well suited for use in an advanced undergraduate or graduate course on experimental techniques, especially in conjunction with the acquisition studies referred to in each chapter.

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Michael Tomasello (ed.), *The new psychology of language: cognitive and functional approaches to language structure*. Mahwah, New Jersey, & London: Lawrence Erlbaum, 1998. Pp. xxiii + 292. ISBN 0-8058-2576-2.

This book offers a preliminary look at some current research in linguistics, specifically research that emphasizes the functions of language (the relations between function and form in an utterance) rather than just the structural properties. The book consists of a general introduction followed by 10 chapters commissioned from linguists long concerned with function as well as form. In most cases, these linguists have thought deeply about various aspects of language processing (how people produce and understand language) and about what is required to account for how speaker and addressee coordinate their focus of attention, how they manage the flow of

information, and the perspective they choose on objects and events on different occasions. Using language, after all, is a cooperative enterprise that demands the coordination and joint activity of speakers and addressees (H. Clark, 1996).

The ten chapters vary considerably in readability, clarity, and pedagogical impact. Some lay out the premises and goals of a specific approach very lucidly and so link up nicely with others that expand on specific topics – for instance, the chapter by Langacker on cognitive grammar and that by Croft which focuses on types of event structure; the chapters by Taylor and Goldberg, both on the meanings of constructions; and the chapters by Fauconnier and Chafe, which take up the flow of information in an utterance or in a longer discourse. Several chapters also contain highly insightful discussions of specific construction types, for example, Wierzbicka's on expressions of causation, in which she presents a valuable addition to Shibatani (1976), and Croft's on event-structure types and causal chains (see also Croft, 1991). A couple of chapters are more programmatic in their exposition and so somewhat less informative about the specific approach being advocated (e.g. Givón, and, to a lesser extent, Hopper), and one chapter seems to have been written with a quite different goal from all the others, namely to account for some rather atypical data on *wh*-question forms in the acquisition of English (Van Valin). But despite this unevenness, the book as a whole offers a valuable introduction not only for psychologists but also for linguists who wish to make a preliminary foray into some of the theoretical approaches that take into account both structure and function in language.

Among some of the major themes addressed are reliance on corpora of *actual speech* rather than made-up example sentences, the *routinized or formulaic nature* of many (perhaps most) utterances, the *choice of a perspective* on the objects and events being talked about, the *productivity* of different constructions in both lexicon and syntax, and the *lack of any precise correspondence* between the linguistic elements in an utterance and the information actually conveyed about the world around us. I'll take up the present contributions to each of these points in turn.

If one is concerned with the functions of utterances, it is critical that one observe real *language-in-use*, and analyse corpora of actual utterances from different kinds of discourse in arriving at any theoretical account. This approach contrasts with ''armchair linguistics'' where linguists customarily make up the relevant example-sentences and base their analysis only on these examples. For resolving questions about how people use language, the pitfalls in the latter approach (one rather susceptible to failures of imagination) become all too obvious (e.g. Bolinger, 1971). The language people actually use may overlap rather little with the more limited range of examples one might conjure up in one's armchair (Pullum, 1996). This observation has

gained more and more force within linguistics at large in recent years as linguists pay attention to the large corpora of both spoken and written language now available for analysis. Such data have already proved salutary in changing our assumptions about patterns of use, co-occurrence frequencies, and the range of forms speakers have recourse to under different circumstances. Several of the present contributors have a strong commitment to using real linguistic data, and regard such data as essential in deciding what needs to be accounted for.

When we talk, we make extensive use of all kinds of *ready-made forms* – words, phrases, idioms, and routinized expressions of varying sizes (e.g. Bolinger, 1976, Fillmore, Kay, & O'Connor, 1988). As Paul Hopper puts it in the present volume: "We say things that have been said before. Our speech is a vast collection of hand-me-downs…" [p. 159]. This view contrasts with a central tenet of generative grammar and its descendants, namely that people are constantly constructing utterances *de novo*, forming sentences that they have never produced before. But this latter view appears to be something of a misrepresentation. Studies of collocations like *disappearing ink* vs. *vanishing cream*, set-phrases (*would you mind*, *just a sec*, *I wonder if*, etc.), and idioms (*to be on base*, *quick as a wink*, *to rabbit on*, etc.) strongly suggest otherwise. And this casts a rather different light both on what we must be storing in memory (we have extensive storage capacity, so why not make use of it?) and on the kinds of linguistic units we retrieve as we plan and produce utterances. Ready-made forms presumably help smooth the path of language production, allowing us time to do the extra planning needed for any novel combinations when these are needed. As yet, we don't have good measures of how much we, as speakers, rely on ready-made units and how much we construct for the occasion in our communicative exchanges. Ready-made chunks or units may also play some role in acquisition, perhaps via their frequent uses in adult speech. Frequent collocations may also guide children in the first combinations as they move on from one word at a time to longer utterances. While none of the present contributors takes up this question, it is in fact quite central to current research on early syntactic acquisition (e.g. Tomasello, 1992).

Another theme in several of the chapters is that of *choice of perspective* or the construal chosen by the speaker in talking about an object or event. While we have long been aware that deictic elements like *here*, *that*, or *come* mark the speaker's perspective or viewpoint (compare: *She came into the room* and *She went into the room*, and consider where the observer was in each case), it has been less clear that choices of construction and lexicon also serve to indicate the speaker's choice of perspective (see Fauconnier, 1985; Lambrecht, 1994; Clark, 1997; Fillmore, 1997). The actual range of choices available in a language allows speakers flexibility in communication, and also offers insight into the range of conceptual categorizations possible. A brick

isn't always a brick: it can variously be a doorstop, a shelf-support, or a step, just as the family dog can be a guard, a pest, a vacuum-cleaner, a disposer of scraps, that animal, or a spaniel (Ravn, 1988). This flexibility in language use allows speakers choices of both construction and wording in conveying to their addressees their take on specific events. In studies of acquisition, though, relatively little attention has been focussed on alternate constructional choices and what they connote. Flexibility in how to refer to specific objects or actions has been largely ignored in studies of lexical acquisition, where reference has all too often been equated with meaning. The emphasis on construal or perspective in several of the present chapters offers a welcome redress.

Yet another concern addressed in this book is the *productivity* (and hence the possibilities of semantic and syntactic extension) of lexical and syntactic constructions. Languages may differ considerably in the conventional repertoire available in any particular conceptual domain, but they all have some word-formation patterns and constructions that are productive and so extend the range speakers can make use of. Languages also differ in the specific functions speakers can convey, and in the range of forms conventionally used for each in different languages. This, of course, adds to the complexity of making direct comparisons across languages, as Wierzbicka points out. And this may be where much more extensive analysis of lexical meanings may help us see which functions are similar and just how the relevant meanings are conveyed from one language to another. In addition, there will always be gaps where one language simply lacks some of the lexical or constructional options found in another. The puzzle will be to find out just what languages have in common as we begin to take into account both form and function.

At the same time, as Fauconnier points out, there is no sense in which any language can ever offer a *complete representation* of a particular event, say. That is, there is always some information 'out there' that must go unexpressed – for which there may be no linguistic expression possible in that language. This is because, as Dan Slobin pointed out in 1979,

> Language *evokes* ideas; it does not represent them. Linguistic expression is thus *not* a straightforward map of consciousness or thought. It is a highly selective and conventionally schematic map. At the heart of language is the tacit assumption that most of the message can be left unsaid, because of mutual understanding (and probably mutual impatience) [p. 6].

Different languages conventionally represent some distinctions but not others, and part of what speakers know is just which distinctions are obligatory in their language, and which kinds of information may generally go unexpressed (see further Slobin, 1996). Finding out how to make appropriate comparisons among languages at this level offers a major

challenge as we start to analyse the respective contributions of lexicon and construction to our utterances.

These are some of the pervasive themes found in this book. And while each contributor raises somewhat different puzzles, they also revisit a number of the same issues, each time casting a different light and raising new questions. For research in acquisition, several of the contributions point to current gaps in what we know. For example, there has been remarkably little research, in any language, on the full range of syntactic constructions a child must learn. And even where researchers have investigated the acquisition of specific syntactic structures, they have generally ignored the functions of those structures, and devoted little or no attention to when and why adult speakers use them (for two exceptions, see Karmiloff-Smith, 1979; Budwig, 1995).

Another debate within acquisition has concerned productivity: what data – how much data – do we need for a particular construction or inflection, say, before we can attribute to children adult-like mastery of that form (and function)? What the discussions of formulaic or routinized utterances make clear is that this issue cannot be resolved simply as a matter of so many uses of form **x** over a certain period of time. These could be nothing more than formulaic uses, learned as whole chunks. Rather, we also need to look at the number of types in a construction, at the range of constructions used with each particular noun or verb type, say, and at the range within different kinds of phrases. This is because what counts as productive is critical for claims about when children master a construction or a meaning, when they achieve adult-like knowledge and reflect it in their language use.

In short, this collection offers a broad sampler of some current functional approaches to the analysis of language, and in doing so it raises a number of questions that are fundamental for research on language acquisition as well as (adult) language use.

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