

REVIEWS

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SUSANNE DÖPKE (ed.), *Cross-linguistic structures in simultaneous bilingualism*.

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This volume, the twenty-first in the series Studies in Bilingualism (SiBil), seeks to understand the status of atypical structures in the otherwise language-specific speech of young children growing up with two languages simultaneously. Following the introductory chapter by the editor, Susanne Döpke, ten contributions by ten authors (including the editor) bring together insights on bilingual first language acquisition. The first and the last chapters provide complementary views on general methodological issues in bilingual studies. The remaining eight contributions involve longitudinal investigations of specific cross-linguistic structures in lexical, morphological, syntactic, and phonological realms in children mainly two to three years of age. In terms of language combinations in these eight chapters, four deal with German-English bilingual children, two focus on the same French-Dutch child, one looks at the linguistic development of two Latvian-English children and one discusses observational (longitudinal) and experimental (cross-sectional) data from French-English children. All the contributions promote an alternate view of bilingualism that moves away from perceiving the bilingual as two monolinguals towards perceiving the bilingual as ‘a language user with highly specific processing and representation mechanisms’ (Gut, p. 202 in this volume). The focus in this volume is on why mixing occurs, albeit at low levels, after young bilingual children have already differentiated their two languages at an early age. References are provided at the end of each contribution and the volume ends with an author index and a useful subject index.

Susanne Döpke’s introductory chapter, ‘On the status of cross-linguistic structures in research on young children growing up with two languages simultaneously’ explains from the outset that all contributors are interested in accounting for atypical structures because these structures may inform us about the cognitive processes involved in the simultaneous acquisition of two languages. In other words, cross-linguistic structures in language use can be a window into the bilingual mind. Besides describing the specific features of each contribution, she summarizes the common findings among the contributions as the following:

- (1) Monolingual children show evidence of the range of variation produced by the bilingual children, but to a lesser degree.
- (2) Though cross-linguistic structures are for the most part infrequent and numerically minor, they are of value because they do not usually receive

- any re-enforcing input from the environment and thus, they demonstrate children's analytic capacities in the face of structural ambiguities.
- (3) The degree of cross-language influences depends on the language combination for a particular language module.

Rosemarie Tracy opens the discussion on 'Language Mixing as a Challenge for Linguistics' by raising several familiar issues that researchers face in analysing mixed utterances. Although these issues are not new in early bilingual data or in adult language mixing, Tracy has pulled them together commendably in an explicit account that warns of the fuzzy edges involved in:

- Identifying switch points, particularly where the two languages have similar-sounding cognates;
- Identifying the possible base or matrix language, when it is impossible to 'distinguish cases of utterance-internal mixing from pragmatically unmotivated language choice' (18);
- Assigning lexical or morphological items to various grammatical categories without 'a detailed analysis of the overall system(s) available to the child at the time' (22); and
- Determining the directionality of mixing and the involvement of dominance, asymmetry or asynchrony.

The fact that monolingual children also produce the same deviant patterns found in bilingual children (e.g. monolingual German-speaking children who do not produce the verb in the required final position in subordinate clauses) suggests that other factors besides cross-linguistic transfer and overlap may be involved.

The next two contributions by Elisabeth van der Linden and Aafke Hulk, respectively, have the same main title, 'Non-selective access and activation in child bilingualism'. The secondary titles are 'The lexicon' for van der Linden and 'The syntax' for Hulk. The lexical and syntactic data come from the same French-Dutch bilingual child, Anouk, growing up in the Netherlands between ages 2;3 and 3;11. Both authors acknowledge that the investigation reported in their respective chapters was carried out in collaboration with the other (and syntactic differentiation is mentioned in the conclusion to the chapter on the lexicon). Given such similarities, it would have been more logical for the contributions to be combined into a single chapter, so both chapters are discussed together here. Van der Linden points out that since experimental techniques used for studying lexical access in adult bilinguals have all suggested mixed lexical storage, bilingual children, too, could naturally have the same problem in keeping the words from their two languages apart, as is evident in lexical mixing that occurs after language differentiation has been established. Incomplete inhibition is considered

the culprit for both children and adults. Van der Linden concludes that differentiation does not occur simultaneously for all language domains. Pragmatic competence precedes lexical differentiation, which, in turn, is followed by syntactic differentiation. Hulk continues the discussion by showing that the syntactic system of one language is also never completely inhibited when the child speaks in the other language. While deviant word orders by bilingual children were initially thought to be structural interferences caused by being exposed to two languages with different word order contrasts, the same structures were also found in monolingual children. This indicated that the XP_V orders used in French in the bilingual subject was not an example of transfer of basic Dutch OV-orders but a 'general tendency in child language to build up the clause structure by adjoining pragmatically salient element [sic] to the clause, a phenomenon also present in monolingual French children' (74). However, since such XP_V structures occurred more often and longer in the bilingual child's speech than in monolingual French children, indirect interlanguage influence is considered to be the cause. The indirect influence comes from the frequency of input from one language (in this case, Dutch) coupled with the partial overlap of input allowing for XP_V orders in both languages.

Susanne Döpke's chapter, 'The interplay between language-specific development and crosslinguistic influence', explores indirect interlanguage influence further as she finds, similar to Hulk, that atypical developmental structures in the speech of four German-English bilingual children (ages 2;0 to 5;0) also occur in monolingual data but more frequently in the bilingual data. She compared the bilingual children's non-target structures to similar non-target structures in monolingual children in terms of 'the base position of the verb in the verb phrase, the position of verbs in relation to negation and modal particles, the development of finiteness, and the use of non-finite verbs in positions reserved for finite verbs in German' (82). 'Cross-language cue competition' is used to explain the frequency of non-target structures in the bilingual data. In this view, the children are aware they have two different languages, but they also notice the similarities between their two languages and the similar structures gain strength crosslinguistically. Döpke believes that the Competition Model (as proposed by MacWhinney, 1987) with its 'tension between contrasts and similarities of structural cues' can explain 'the coexistence of evidence for language separation as well as crosslinguistic influences' without excluding 'lesser frequencies as irrelevant' (100).

The next contribution by Christina Schelletter, 'Negation as a cross-linguistic structure in a German-English bilingual child', extends Döpke's analysis of word order differences in terms of sentential negation. Schelletter found, however, that the crosslinguistic structures of her daughter, Sonja (aged 1;11 to 2;9), were in the opposite direction from Döpke's data in that

the influence was more prevalent in Sonja's English than in her German (note that the children in both studies lived in English-speaking environments). Schelletter concludes that 'the crosslinguistic structures found are not simply the application of one rule to both language systems' (119) but result when the child analyses negative elements in both languages as adverbial elements rather than functional categories.

Ira Gawlitzek-Maiwald's chapter, 'I want a chimney builden': the acquisition of infinitival constructions in bilingual children' also analyses data from German-English children – two girls and one boy between 2;1 and 5;10. She addresses the interesting question of why asynchronies in the acquisition of functional projections occur between the development of English and German in bilingual children. Since the different and asynchronous development of two languages in one child could not be due to different stages of cognitive development, Gawlitzek-Maiwald argues convincingly that it must be due to systematic differences between the two languages. She also suggests that frequency of input can play a role in the sequence of acquisition for the two languages.

In 'The Search for Cross-Linguistic Influences in the Language of Young Latvian-English Bilinguals', Indra Sinka examines data from two bilingual girls between 1;3 and 2;5, first, in terms of language differentiation and then, with a focus on mixed utterances at the lexical, morphological and syntactic levels, although such mixed utterances formed a very small part of her data. The difficulties that Tracy alluded to in interpreting mixed utterances are reflected in Sinka's examples of syntactic mixing, where predominantly English two-word utterances were considered to be signs of crosslinguistic structures that exhibit a freer Latvian word order (168). Data from monolingual and bilingual children acquiring English also show variable order in two-word utterances, and this of course has nothing to do with transfer from Latvian (*cf.* Deuchar & Quay, 2000). Sinka concludes that there are few cross-linguistic structures in her data because Latvian and English differ so much in their structural and morphological complexity that it enables the child to separate the two language systems from an early stage. In other words, the fewer parallel structures, the less ambiguous the task is for the child to produce language-specific structures.

Johanne Paradis continues this issue of the separation and interaction between the languages being acquired in 'Beyond "One system or two?": degrees of separation between the languages of French-English bilingual children'. Paradis provides a well-organized, analytically sound article. She finds that different subcomponents of language such as morphosyntax (as described in the first part of her chapter) and phonology (as described in the second half) are affected by cross-language interaction in different ways. Her five bilingual subjects between 2;0 and 3;0 were acquiring both verb movement for negation and the classification of pronominal subjects in

the same way as monolingual children. In contrast, some evidence of cross-linguistic influence was found in her experimental study of phonological processing, involving truncation and target language prosodic structure. Three groups of participants between ages 2;0 and 3;0 were involved in the experimental study – 18 monolingual French-speaking children, 18 monolingual English-speaking children and 17 bilingual French-English children. The discrepancy in results between syntactic and phonological acquisition is attributed to a difference in methodology (the syntactic study was observational while the phonological study was experimental) and to the language pair involved. At the syntactic level, English and French have the same word order so the effects of crosslinguistic interactions may be less noticeable than for language pairs with different word orders.

Ulrike Gut's work contributes to an area that has not been much studied. In 'Cross-linguistic structures in the acquisition of intonational phonology by German-English bilingual children', she investigates in detail the acquisition of intonational features on both the phonetic (pitch accents) and phonological (intonation of questions) levels in two bilingual girls also studied by Gawlitzek-Maiwald. She finds no evidence of crosslinguistic influence at either level. Without a stronger statement than this, the reader is left feeling somewhat dissatisfied. In fairness, Gut admits that she cannot make a more conclusive statement in the absence of monolingual data to determine whether her findings are a 'regular feature of the acquisition of intonation at this age or whether this reflects the specific bilingual acquisition process' (220).

In 'Concluding remarks: language contact – a dilemma for the bilingual child or for the linguist?', Elizabeth Lanza returns to some of the issues raised earlier by Tracy and/or addressed by the other articles in this volume. That the bilingual child differentiates the two languages from early on is not in dispute in any of the studies. As mentioned, several studies highlight instead that atypical structures that do occur and look like cross-linguistic transfer can also occur in monolingual acquisition. The challenging tasks remaining for researchers, in Lanza's accurate summation, involve the development of valid methodologies and the consideration of how the child uses language contact in the process of acquiring two languages. In view of the psycholinguistic orientation of all the contributors, Lanza reminds us of the sociolinguistic dimension of mixed utterances. She encourages us to deal with the issue of frequency of input, the actual context of the child's speech, and the question of dominance through use as well as through development. Lanza concludes that language contact is not a problem for the bilingual child but for the linguist in terms of theory and methodology. She quite rightly calls for a more expansive treatment of bilingual first language acquisition that takes into account work on more mature bilinguals and that can relate

'psycholinguistic, sociolinguistic/pragmatic, and cognitive motivations for language contact phenomena' (242).

Overall, this is an excellent volume and a welcome contribution to the field of bilingual studies. The chapters are thorough and meticulous in their presentation of the limited data on specific crosslinguistic structures under study. The focus on examples of crosslinguistic influence serves not only as a coherent theme that pulls the volume together but also provides a useful database for researchers in the field of early bilingualism. While the volume may not be accessible for the non-linguist or for the layman whose interest in this subject stems purely from raising bilingual children, graduate and senior undergraduate students in this field can benefit from several of the articles as excellent models of research reporting. All the contributions explain the technical terminology well in comprehensive literature reviews. As Lanza's last chapter points out, one of the shortcomings of the volume is that none of the contributions addresses the presence of mixed utterances from a socio-linguistic perspective. Some of the ambiguous interpretations or findings throughout the volume could have been resolved by considering input and context more systematically, as advocated by Lanza in this volume (and as I have argued elsewhere (Quay, 2001, 2002)).

This book is highly recommended reading for those in the field for the perceptive issues raised, the clarity of focus, and for the data presented. It can serve as a reference guide for future research directions with a wider range of language combinations and encourages us to delve more deeply into the interactive nature of bilingual cognitive processes beyond the simple question of 'one or two systems'.

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CLARK, E. V., *First language acquisition*. Cambridge: Cambridge University Press, 2003. Pp. xvi + 515. ISBN 05 216 2997 7.

The aim of Eve Clark's book is to take a 'comprehensive look at where and when children acquire a first language' (p. i). In a series of well-crafted chapters, Clark details the complexity of the tasks facing the child and the steps s/he takes along the way towards language mastery. The presentation of the data and the relevant controversies is excellent and should ensure that this book becomes a successful and widely used teaching text. But it is more than a teaching text, and what will make this book essential reading for many in the field is its focus on the cognitive and communicative context of language acquisition. The overarching theme is that language is embedded in a social context, which means that the context can provide a wealth of cues from which children can learn – gesture, gaze, stance, facial expression, voice quality etc. (p. 8). Also integral is the idea that we should take account of the broader cognitive dimension of language acquisition and that conceptual and cognitive developments play a central role in acquisition. The reader is drawn to the inevitable conclusion that there is much more to communication than just the acquisition of mechanical language skills, and that non-linguistic developments are integral to the acquisition process.

The book is divided into four parts, each of which addresses a different aspect of the acquisition process. These sections are preceded by an introductory chapter (Chapter 1), which summarizes some of the central debates concerning the nature of the language acquisition mechanism and the goal of acquisition. There is also a section entitled 'Why study acquisition?' (p. 17) although in fact the whole chapter is concerned with this question in its broader sense. All the issues are of necessity addressed in short, summary form, but then the aim is not to give the reader an in-depth knowledge of the ramifications of the different debates. Instead, the chapter seeks to engage the reader's interest in the questions researchers ask, and to demonstrate the complexity of the task that children face when learning a language.

Part 1 (Chapters 2–6) is intended to cover the earliest skills that are acquired but in fact, the first chapter in this section (Chapter 2) details the role that the information children receive in their input might play in acquisition. Clark very rightly adopts a broad definition of 'input' and includes important aspects of the child's non-linguistic communicative world as well as the speech addressed to children. Thus, she not only provides a clear overview of the controversies surrounding the role of the child-directed-speech register, but also draws our attention to the importance of the child's and adult's communicative intent and of non-linguistic factors such as joint attention in the language acquisition task.

The 3 remaining chapters in part I provide a detailed review of research on early developments. Chapter 3 discusses how children attend to, distinguish and identify speech sounds and Chapter 4 summarizes research and theories of early word learning. How children articulate their early words and learn to produce the 'sounds and sequences they need to be heard and understood' (p. 130) is addressed in Chapter 5, while Chapter 6 looks at how children learn word meanings, and details the role of constraints and social and pragmatic cues in the acquisition of form-meaning pairings.

A strong theme in these chapters is the idea that the child's need to understand and to be understood is integral to the acquisition of all these early skills. This claim is more controversial in some areas than others. For example, few would dispute that the search for word meaning is driven by the child's attempts to discern a speaker's intention and to make her/his own intentions known (Chapter 6), but the idea that children practice language, in bedtime monologues for example, seemingly in order to improve their articulatory skill (Chapter 5) is more contentious, although the research Clark presents to back up her claim is persuasive.

Another important theme is the difference between the child's abilities in comprehension and production, which has implications for our understanding of the acquisition process at all levels. For example, the finding that children tend to recognize the difference between their own erroneous and an adult correct production of the same form, preferring the adult form in comprehension tasks, implies that they must at some level store the correct adult representation of a word, even if they cannot articulate it (Chapter 3). In fact, Clark raises the interesting idea that a lag between comprehension and production is in fact critical for language acquisition at all stages; she argues that if children did not store the correct representations in memory, they would not have targets on which to model their own production and would not be able to recognize recurring forms in the speech they hear (p. 129).

Part II (Chapters 7–11) focuses on how children acquire the structural aspects of language. Chapter 7 discusses the child's progression from single to multi-word utterances, the function of early word combinations and the emergence of word classes and constructions. Chapter 8 deals with how children 'modulate' utterances to include more information about the meaning the utterance needs to convey; looking at how language typology affects the process of learning and what influences children's acquisition of word classes and inflection. Chapters 9 and 10 investigate how children learn to convey more precise and complex meanings, through the use of questions, negatives and passives (Chapter 9) and by combining clauses through co-ordination and subordination to create more complex constructions (Chapter 10). Finally, Chapter 11 takes a look at how children analyse the internal structure of words.

The emphasis in these chapters is on the idea that acquisition is gradual. For example, in Chapter 7, the thesis is that children are conservative learners of constructions – they add ‘only slowly to the forms that can co-occur with each verb, and they take a long time to build up a repertoire in which the same construction can occur with several different verbs’ (p. 185). Similarly, in Chapter 8 it is argued that children are cautious in where they first add inflections, and are unwilling to assign either an inflection or a new word order to a novel noun or verb (p. 203–4). It is important to note that the implication of this claim is not that children’s productions will be error-free or that they will be simple imitations of adult input. The suggestion is instead that children create schemas or templates for conveying certain meanings, schemas that are based on the target word shape for each inflected form.

Part III (Chapters 12–16) discusses some of the conversational skills children acquire that enable them to communicate linguistically. Chapter 12 focuses on how children learn the basic skills necessary to hold a conversation, skills such as choosing appropriate speech acts and taking account of common ground. The question of how children learn to mark social roles is addressed in Chapter 13. These include issues such as when and how children learn to use different registers, how they learn what kind of language to use in different situations (e.g. how to interpret questions in school, how to tell stories), and how children learn the social rules for choosing different possible forms to express a certain intention (e.g. when to use imperatives vs. polite requests). Chapter 14 considers the effect of the broader linguistic community, looking not only at acquisition in bilingual and multilingual communities, but also at how children acquire more than one dialect and how social factors such as socio-economic status and birth order affect language and dialect choice.

The skills discussed in these chapters are often overlooked (e.g. turn taking (Chapter 12), learning how to be persuasive or deal with conflict (Chapter 13), learning two or more dialects (Chapter 14)), but they are of course essential if the child is to become a competent adult speaker. In fact, it is clear that many of these abilities are pre-requisites for effective language parsing; for example, the ability to make inferences about speaker intentions is critical for interpreting the speech addressed to us (p. 307). Once again, Clark clearly illustrates the importance of considering the broader communicative context and demonstrates that we cannot define language simply in terms of the narrower mechanical skills such as phoneme recognition or word learning.

The mechanisms and processes behind acquisition are the focus of part IV (Chapters 15 and 16). Chapter 15 looks at what children bring to the acquisition process, discussing the nature of the innate component and whether there is specialisation in the brain for language or a sensitive period for

acquisition. Chapter 16 reviews the most likely pre-requisites for language. It discusses the mechanisms that may enable children to segment the speech stream and learn word classes and grammatical rules, the role of limits on processing capacities (e.g. restricted working memory), and the contributions of universal principles and the input.

Part IV is a very short section, and, although the coverage of the evidence is pertinent and wide ranging, it is too brief when we consider that the description of the language acquisition mechanism and an account of how it works is the ultimate goal of much of our research. Although Clark is clearly taking a usage-based approach, she provides very few details about what this approach would predict about the language acquisition mechanism. This is a disappointing omission, especially given the acknowledgment in the book of the importance of precise models of acquisition – ‘what are needed are testable hypotheses and analyses of pertinent data by the researchers making the claims’ (p. 18) – and the fact that there are testable usage-based models in the literature (e.g. Tomasello, 2000) that could have been discussed.

A related problem is that non-constructivist theories and models of the acquisition mechanism are dealt with only very briefly, both in part IV and, throughout the book. In particular, discussions of nativist theories tend to be scattered about the book, with little analysis of the relationship between the theories (e.g. parameter theory is discussed in Chapter 1, constraints theory in Chapter 6, performance limitations theory in Chapter 9). This means that the reader never gains a coherent picture of the basis of the nativist position or of the current proposals. As a teaching text, this book would need to be supplemented by more detailed information about theoretical approaches to language.

One advantage of the lack of coverage of the theories, however, is that the book is able to focus on the acquisition process, providing a beautifully detailed account of development. Clark’s well-crafted descriptions of acquisition are greatly enhanced by the inclusion of a large number of examples of child speech from a variety of sources including her own corpora. These examples provide an evocative snapshot of children’s language, although the vast majority of the examples are from English-speaking children, a fact that makes it clear that more work on other languages is urgently needed.

The enduring impression Clark leaves the reader is that language acquisition is an extremely complex task and that the skills required are learnt rather slowly (perhaps contrary to traditional opinion). Luckily, however, the complexity of the task is offset by the enormous amount of linguistic and non-linguistic information in the environment and the wide array of non-linguistic skills that children have available to them. The research covered in the book powerfully supports Clark’s thesis that we cannot divorce language

from its social setting or disregard the cognitive and social skills that children bring to the language-learning task.

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ANGELIKA WITTEK, *Learning the meaning of change-of-state verbs: a case study of German child language*. Berlin: Mouton de Gruyter, 2002. Pp. 233. ISBN 3-11-017304-2.

The case study to which the title of the book alludes is not the type that most readers of *JCL* would expect. The book is not about a single child's language; rather, it presents experiments. The case under study is German child language itself, as one instance of a child language.

The first two chapters introduce the book's central paradox. On the one hand, very young children appear to be attuned to changes in state, and to understand that certain verbs denote them. For example, their first transitive and ergative markers are restricted to noun phrases that occur with verbs that express direct physical action on an object (Slobin, 1985). These verbs are also the ones to which youngsters most frequently attach past tense markers, presumably to express that some change of state has been brought about (Bloom, Lifter & Hafitz, 1980). When Italian three-year-olds use these types of verbs as past participles, they tend to mismark their gender as if they were adjectives, or state descriptions (Antinucci & Miller, 1976).

On the other hand, older children do not fully appreciate the changes expressed by some change-of-state verbs (Gentner, 1978; Gropen, Pinker, Hollander & Goldberg, 1991). In the most extensive study (Gropen *et al.*, Exp. 1), two-frame picture strips were used to test the manner verbs, *pour* and *dump*, and change-of-state verbs, *fill* and *empty*. For example, a woman tips a pitcher over a glass in one frame, and in the next, she is gone and the glass is full. She is said to have done something 'called filling [pouring].' New two-frame strips are introduced side by side. In one, only the frame depicting manner has been altered (the woman lets water drip from a faucet to fill the glass). In the other, only the endstate frame is altered (the woman is still pouring, but the glass is empty and surrounded by puddles). In that study, all the children, even two- or three-year-olds, tended to map manner verbs correctly (e.g. for 'pouring', choosing the strip in which the woman

was pouring but not filling), whereas all, even four- and five-year-olds, selected the incorrect strip (e.g. pouring but not filling) about as often as the correct one for the change-of-state verbs (e.g. 'filling').

Wittek notes limitations in these investigations. Only a few verbs were examined, and each referred to an action on a nonsolid substance in a container. Children's failure to give endstate its due may be restricted to this particular type of activity. Moreover, the verbs were tested in *-ing* form, and in the studies by Gropen *et al.*, without direct objects. These cues could have drawn attention away from endstate.

In chapter 3, the author presents three experiments testing her TRANSPARENT ENDSTATE HYPOTHESIS for why German children tend to neglect endstate when extending change-of-state verbs. She never establishes that German children are prone to such neglect however; only studies of American children's verb interpretations are reviewed. Although the youngsters in her experiments have some difficulty interpreting change-of-state verbs, they were never asked to interpret other types of verbs. So it is not known whether German children tend to neglect endstate more than other features of action.

According to the transparent endstate hypothesis, children neglect endstate only when interpreting single-morpheme verbs. The reason for this specificity is that the typical way of expressing change, especially in German, is with a verb and a prefix or free particle that characterizes the change (Talmy, 1991). For example, in 'I blew out the candle,' *out* indicates the change of state, and the verb indicates the manner by which it was established. Wittek notes that one-year-olds' use of particles such as *up* to request change (Greenfield & Smith, 1976) is consistent with this hypothesis. The results of studies in which novel single-morpheme verbs have been taught (Behrend, 1990, 1995; Forbes & Farrar, 1995) do not support the hypothesis, however. Even the youngest groups in these studies gave more weight to endstate than manner when extending the verbs. The studies did not include conditions in which multi-morphemic verbs were trained, so it is possible that youngsters would emphasize endstate even more when interpreting such expressions.

Wittek's experimental method has several salutary features. Videos, rather than picture strips, are used, and each depicts an action that could be described by either a transparent (multi-morpheme) or opaque (single-morpheme) verb form. Test sentences include direct objects, and are presented before and after the videos. In Experiment 1, 4- and 5-year-olds were told that a puppet was going to guess what would happen in each video. For example, 'Ich glaube, dass das Mädchen gleich einen Mann [transparent condition: **wachmact** / opaque condition: **weckt**].' ('I think that the girl soon a man [awake-makes/wakes].') A video was shown in which an attempt to bring about the predicted change either

succeeded or failed. For example, the girl held a ringing alarm clock up to the man's face, and he either woke up or not. The child was asked, 'Stimmt das? Hat das Mädchenden Mann [transparent: **wachgemacht** / opaque: **geweckt**]?' ('Is that right? Has the girl the man [awake-made/ woken]??')

When the change occurred, the children nearly always accepted the proffered description. When the change failed to occur, they rejected it 75% of the time. This level of performance is far from poor. German children's endstate neglect may not be as severe as assumed. Of eight events, the youngsters had difficulty with only two – the wake up failure, and a glass that filled up part way, then emptied because of an unseen hold in its bottom (only 30% rejected *fill* [*füllen*]). As the author acknowledges, the mysterious nature of the latter event may have been the source of its difficulty. Some children may also have had a hard time understanding why, or believing that, the man with the clock ringing in his face did not wake up.

Contrary to hypothesis, children did somewhat worse with transparent (68% correct rejection) than with opaque verbs (83% correct rejection). The results of a follow-up study (Experiment 2) established that their difficulty with transparent forms was not due to the particular verbs used or to the procedure of asking each child to judge both types of verbs. The final experiment of the chapter examined whether the prefix position of the morpheme was the problem (e.g. *wach-* in *wachmact*). Instructions involving transparent verbs were reworded so that the particle was detached and positioned at the end of the sentence. For example, the pre-video comment for the wake-up video ended, '... **macht** gleich einen Mann **wach**.' ('... makes soon a man awake.') and the post-video test question was, 'Stimmt das? **Machte** das Mädchen den Mann **wach**?' ('Is that right? Made the girl the man awake?') For opaque verbs, only the post-video question was reworded, for example, 'Stimmt es, dass das Mädchen den Mann **weckte**?' ('Is it right, that the girl the man woke?')

Children rejected the no-change events more often for transparent (75%) than for opaque verbs (50%). Although consistent with the transparent endstate hypothesis, comparison with the results of Experiment 1 indicate that the wording changes primarily reduced performance with opaque verbs (from 83% correct) rather than increased it with transparent verbs (from 68%). No statistical comparisons between experiments are reported. Because results are listed for each verb separately, a simple test can be computed. For the eight opaque verbs, six showed a higher percentage of correct response in Experiment 3 than 1, and one showed the opposite, two-tailed $p=0.031$. The corresponding numbers for the transparent verbs were one with more correct responses in Exp. 1 than in Exp. 3, and three with the opposite relation, NS. So the only conclusion with sufficient statistical footing is that wording affected the children's interpretation of opaque verbs.

The author conjectures that children had more difficulty with the past tense opaque forms of Experiment 3 (e.g. ‘... *weckte?*’ [‘... woke?’]) than the present perfect of Experiment 1 (e.g. ‘Hat *geweckt?*’ [‘Has woken?’]). She notes that the *ge-VERB-t* form is also used in the state passive (e.g. ‘Der Bar ist *geweckt*’ [‘The bear is woken’]), and that this form can be used with change-of-state verbs, but not activity verbs. German youngsters may have induced from experiences with the state passive that the *ge-VERB-t* form denotes an endstate. Although they may not have more of a problem with change-of-state verbs than with other verbs, they did perform somewhat more poorly with opaque change verbs in past tense form (‘... *weckte?*’) than with verb+free particle versions in the past tense (‘... *macht ... wach?*’). So the transparent endstate hypothesis has some support.

The remainder of the book (chapters 4–6) concerns the possibility that even a child who misinterprets a change-of-state verb still considers endstate to be relevant to it. The author notes that many languages have manner verbs with pragmatically-favoured endstates. For example, ‘washed the shirt’ [‘*wusch das Hemd?*’], does not strictly entail that the shirt became clean, but does convey a likelihood that this happened. Also, several languages have verbs that entail neither manner nor change, but merely revolve around an endstate. For example, in Mandarin, *sha* is usually translated as *kill*, yet it is possible to say, ‘“sha” X, but X did not die.’ The particle *si* has to be added to express fulfillment. (Perhaps ‘sha’ without ‘si’ should be translated ‘act with intent to kill’?) So children might mistakenly believe that a change-of-state verb means either acting in a manner that usually produces some endstate, or merely acting with the intention to produce the endstate.

Rather than determining whether children ever make such weak endstate interpretations of change-of-state verbs, the author opts to address the question of how such interpretations could be corrected. Syntactic bootstrapping (Gleitman & Landau, 1985; Naigles, 1990) is considered inadequate. Wittek shows that for the most common syntactic constructions, none permits every change-of-state verb and no activity verb, or vice versa. For example, although all change-of-state verbs can occur in transitive sentences, so can many other verbs (e.g. ‘She stroked [*streichelte*] the cat’). Change-of-state verbs cannot occur in the intransitive (e.g. *‘The policeman killed [*totete*]’), but neither can some other types of verbs (e.g. *‘She stroked [*streichelte*]’).

Pinker (1989) suggested that a child who misinterpreted a change-of-state verb as if it were a manner verb (e.g. *clean* as if it meant ‘wash’) would decide it was a change verb after hearing it used for actions involving the ‘wrong’ manner (e.g. ‘Clean your room’ would not be a command to wash it.). Wittek objects that the child would still have two other options. First, she could

just broaden her characterization of manner (e.g. interpreting *clean* as if it meant to perform actions on surfaces). But it is not clear how manner could be recharacterized to encompass the quite different ways one moves when cleaning one's face and cleaning one's room, but exclude the movements involved in massaging one's face and rearranging furniture. The second option that Wittek suggests is more plausible. The child could decide that the word means 'act-with-intent-to-clean', ala *sha* in Mandarin.

Wittek's proposed correction mechanism involves the child drawing inferences from adverbials, in particular *wieder* (*again*). *Again* specifies that something was recreated or repeated, either an entire event (e.g. 'Mary poured the drink again') or an endstate (e.g. 'Mary filled the cup again'). Although *again* can convey either of these senses for a change-of-state verb, context cues may help a listener infer when the endstate sense is intended. For example, if one knows that Mary did not fill the cup the first time, then *again* in 'Mary filled the cup again' signals that she merely recreated the cup's former state. In such situations, activity verbs cannot be modified by *again*. Saying, 'Mary poured the drink again,' when she had not poured it before would be a mistake or a lie.

Wittek examined whether three- to six-year-olds would use *wieder* in its state-restoring sense. The children watched a man change an object (e.g. close a lid), then a woman enter the scene. They were to tell how the woman should put things back the way they were, and prompted with, 'The girl should ...'. The children produced *wieder* rather infrequently (15% of the occasions in which they uttered a change verb). Whether this adverbial was ever produced with non-change verbs is not reported. Neither is the rate at which non-change verbs were produced. So it is difficult to draw conclusions from the 15% figure. Twice as many of the children's uses of *wieder* modified transparent verb forms (with either a prefix or free particle) as modified opaque forms, lending further support to the transparent endstate hypothesis. However, there is no report of how often these two forms were produced without *wieder*. If this ratio were 2 to 1 or higher, the support would vanish.

The *coup de grace* is Experiment 4 (chapter 6). Four- and five-year-olds watched an actress change the state of an object (e.g. fill an empty basket with scarves), then were told that a man would show them a new action (e.g. he would show them 'was moffeln ist' ['what to moffel is']). An actor then manipulated the object in a novel manner restoring its original state (e.g. pulled on cords attached to the basket, causing it to twirl and become empty). For one group, this action was described with *wieder* ('Peter hat den Korb wieder gemoffelt [has moffeled the basket again]'). Because the actor had not executed the action before, children were expected to interpret *wieder* as expressing endstate restitution, and so infer that the verb expressed the act of producing this endstate. The control group heard a *wieder*-less description ('Peter hat den Korb gemoffelt').

As hypothesized, the *wieder* group gave more weight than the control group to endstate in their extensions of the trained verbs. The *wieder* group rejected actions that matched the manner, but not the change-of-state that had been modeled (e.g. pulling on the cords to twirl, but not emptying the basket) nearly twice as often as the control group (62.5% vs. 36% of trials). A follow-up experiment in which *ganz lange* ('a very long time') replaced *wieder* in the instructions confirmed that not just any adverbial would do; the children responded like the *wieder*-less control group.

Although I have noted a few shortcomings, this book is impressive in several respects. Wittke provides clear, thoughtful reviews of the linguistics literature to support her arguments. The stimuli for the experiments were carefully constructed, and the procedures engaged the children without confusing them. The findings are positive enough to encourage the field to examine the transparent endstate hypothesis for other languages and other types of expressions, and to do the same regarding children's ability to infer the meanings of words from their modifiers.

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