

## Crosslinguistic research

### Summary Box

There is considerable variation among the grammatical organizations of languages of the world. Crosslinguistic research in child language compares developmental patterns in language acquisition of children exposed to different languages. The comparative approach of crosslinguistic research is crucial for testing universalist proposals about how children learn language in addition to demonstrating language-specific learning challenges and patterns. It is a flexible research framework: All the techniques covered in this book can be implemented crosslinguistically; children of any age and adults can be study participants; many domains of language development can be covered. Data from individual languages count as crosslinguistic research, especially if findings expand or challenge our knowledge about the acquisition of well-studied languages such as Indo-European. Recently, guided by linguistic typology, typologically comparative language development research has been especially prolific. In this chapter crosslinguistic research is exemplified in two domains of child language: (1) morphosyntactic development, and (2) pragmatic development.

### Research Aims

Time and again, comparisons of linguistic systems have shown that most of the world's 6,000 or so languages have radically different grammatical organizations than English. Taking heed of such diversity for the benefit of child language research, Slobin and his colleagues have planted the seeds of crosslinguistic research by publishing *A Field Manual for Cross-Cultural Study of the Acquisition of Communicative Competence* in 1967. This manual was written to guide researchers in the methods of collecting comparable field data on the acquisition of communicative competence, which includes both linguistic knowledge and the socialization of such knowledge in child-rearing practices.

In principle, all the research techniques covered in this book could be administered within a crosslinguistic framework. The gist of the crosslinguistic approach is a comparative

outlook to linguistic and cognitive developmental trajectories of children exposed to different languages. On the surface, comparing paths of development across learners of multiple languages appears like plain replications of a technique in new linguistic communities, and does not necessarily come across as a research innovation. However, especially when developmental data of different languages were compared in a well-motivated way, crosslinguistic research has proven essential in addressing long-standing questions and opening new avenues in research about language development.

Crosslinguistically framed language development research has had two overarching goals. The first goal tests claims of universalism, with the aim of uncovering the extent and limits of broad generalizations about children's language learning mechanisms. The second goal, focusing on language specific particularism, studies how the linguistic organization of a certain language systematically influences the learner's language learning mechanisms (Slobin, 1997) or basic perceptual and cognitive mechanisms. These two goals are to be conceived as complementary. Followers of Slobin's pioneering enterprise in crosslinguistic research, for example, have variously demonstrated how children can learn language in general while also unraveling language-specific acquisition paths of learners.

In crosslinguistic research, we see a prolific interface between child language studies and a field of linguistics called linguistic typology (Bowerman, in press). Typologists operate with the goal of determining limits of diversity that make it possible to group languages into types, determined by the status of languages on dimensions of variation (Slobin, 1997). Some of these variations stand out as properties that can potentially affect the trajectories of learning first languages. Child language researchers utilize these typological descriptions in generating comparative research questions across learners of languages with divergent

properties, and in determining how universalist accounts of language development prevail or leak. In other words, in uniting methodological frameworks from the fields of linguistic typology and language acquisition, the crosslinguistic method stands out as a unique research approach that is simultaneously in search of universals and particulars.

One could adopt the crosslinguistic approach to assess any domain of language development from phonological to pragmatic development. The approach can be employed with populations of any age. Often, non-comparative work conducted with children exposed to any language other than English is considered crosslinguistic, owing to an implicit comparison to English (Stoll, 2009). Such studies often test the extent to which universalist theories of language development proposed on the grounds of research on Indo-European languages perform when tested with speakers of other languages. The second type of crosslinguistic work, termed as ‘typological language acquisition’ by Stoll (2009), operates with a well-motivated choice of comparisons across features of different languages.

The prospects of the crosslinguistic approach in child language are staggering. It is only about 2% of the world’s languages in which we have one language development study (or more) (Stoll, 2009). Despite such sparseness, crosslinguistic studies have already supplied crucial contributions to the field of child language. Yet of course, it is important to be aware of some challenges of conducting crosslinguistic research.

In this chapter, the advantages and the challenges of employing a crosslinguistic approach will be demonstrated in two different research domains of child language development. The first area is morphosyntactic development, and the second is pragmatic development. The domains are: (1) argument structure comprehension, that is,

determination of “who-did-what-to-whom” in simple sentences, and (2) exophoric usage of demonstrative pronouns, that is, reference to physically available entities with *this* or *that*.

### *Domain 1: Comprehension of argument structure*

When exposed to a sentence such as *the bird is pushing the horse*, hearers need to figure out what exactly the roles of the bird and the horse are. Even if the meaning of the verb ‘push’ is understood (see chapter 7), a key task in sentence comprehension is to assign the status of the pusher and the pushee to the rightful animals. The knowledge that makes us achieve this comprehension is called argument structure knowledge. In English, we pay attention to the order of the nouns with respect to the verb to comprehend utterances; in other words, we use the word order of the sentence. In many other languages, who is pushing and who is being pushed are indicated by markers on the nouns referring to the animals, termed nominal case markers. Some other languages indicate roles of event participants with markers on verbs. Across languages, comprehension of the argument structure in sentences involves use of one or more of these cues. Studying the developmental status of this knowledge is a crucial component of assessing grammatical knowledge in children (see chapter 8).

Do children learning different languages develop the capacity to comprehend argument structure using similar or divergent cues? Based on research with English-speaking populations, researchers had originally proposed a “rigid word order” strategy, where children parse and produce sentences in the fixed order of subject, verb, and object (Bowerman, in press). This strategy received vindication in recent research language comprehension studies (see chapter 2): English-speaking children use a canonical word order strategy as a mechanism to discover argument structure (i.e., who-did-what-to-whom) in the

sentences they hear. That is, upon hearing a transitive sentence such as *Z is VERBing C*, young children map Z onto an actor and C onto an undergoer of the activity implied by the verb.

For a while, the canonical word order strategy stood ground as a plausible candidate for being a universal discovery procedure about argument structure. But soon it encountered crosslinguistic testing with languages of variable word order and other typical ways of marking argument structure. Slobin and Bever (1982) asked preschool speakers of Turkish, English, Italian, and Serbo-Croatian to act out sentences using animal props. Crucially, the sentences were presented in various word orders and/or in the presence or absence of case markers on the nouns. The findings revealed important language-specific strategies; for example, Turkish children employ nominal case markers in addition to normative word orders to derive sentence meaning. These results pointed towards a theoretical sharpening of the initial proposal, in that the canonical word order strategy had to be streamlined as the 'canonical sentence schema.' This crosslinguistic endeavor was responsible for showing in hindsight that it was the rigid word order characteristic of English, in essence a language-specific feature, that has been upheld as a promising universal mechanism. The crosslinguistic sentence act out study served to discard a generalization, suggesting other language-specific cues than word order affecting comprehension in morphologically complex languages.

It is still a debate today how early English's children use of the normative word order develops to facilitate sentence comprehension productively. Using the intermodal preferential looking paradigm (see chapter 2) where children are directed to look at the scene matching a sentential stimulus, Gertner, Fisher and Eisengart (2006) have

demonstrated that 21-month-old English learners will use SVO (subject-object-verb) order to distinguish reversible agent-patient nonsense actions paired with *novel* verbs (e.g., the rabbit is gorging the fox), showing that the SVO frame is already productive at this young age. Dittmar, Abbot-Smith, Lieven, and Tomasello (2008), on the other hand, show that such comprehension of novel reversible transitives depends on an initial training phase about familiar transitive constructions, arguing that early grasp of the transitive word order is tenuous for German- and English-learners. Slobin and Bever (1982) had found that Turkish children's reliance on case markers emerged about a half-year earlier than English-speaking children's reliance on word order.

As the debate for English learners carries on, crosslinguistic studies are being conducted to determine whether there is an inclination to employ ordering patterns as a cue to comprehension in languages without a rigid word order. Gervain, Nespors, Mazuka, Horie, and Mehler (2008) turned to Italian and Japanese because these languages have opposing word orders, with more frequent function words coming before the less frequent content words in Italian (e.g., *sul tavolo*, on-the table 'on the table') and vice versa for Japanese (e.g., *Kobe ni*, Kobe to 'to Kobe'). Building on this typological distinction, the methodology was to create "miniature artificial languages", where the order of frequent and infrequent nonsense words was manipulated. The babies' preferences for the two orders were tested via their head-turns towards specific auditory stimuli. It was shown that Japanese and Italian 8-month-olds have already detected the ordering patterns of their respective languages; namely, that Italians tend babies to prefer ordering of more frequent nonsense words before less frequent nonsense words, whereas Japanese tend to show the opposite pattern. A recent intermodal preferential looking (see chapter 2) study by Candan, Küntay, Yeh, Cheung, Wagner and Naigles (2010) also showed that Turkish 2-year-old children use word

order as an indication of argument structure to match scenes to a noun-noun-verb sentence, although their relative uncertainty in making that match is higher than their English-learning counterparts as revealed in their more frequent switches between the two alternative scenes. Even in languages without a rigid word order, infants appear to learn to prefer more common ordering patterns of their native languages. Yet, how robustly the “basic word order” cue is used for derivation of sentential meaning across different languages and ages is a current target question of crosslinguistic methodology. For example, Chan, Lieven, and Tomasello (2009) find through an act-out study that Cantonese children learn to rely on word order for sentence comprehension after age 3, while English children show an earlier sensitivity, with German children being somewhere in between.

These studies which use sentences for children to act out with objects or to match to scenes have to make sure that both the linguistic stimuli and the visual stimuli such as props and pictures are comparable across languages. In the Candan et al. (2010) study comparing English-, Turkish-, and Mandarin-learning children’s sensitivity to word order, we filmed human actors costumed as animals so that we can use the same stimuli in all of the three settings. We avoided human faces as they would not look equally local to all the groups. In addition, we chose two animals the nouns for which end in consonants in Turkish, so that both nouns undergo the same vowel harmony rule when they are suffixed. We ensured that the audios of the sentences were spoken by the familiar dialect in all cultures, and included engaging child-directed attention getters in all the languages.

How should future crosslinguistic work proceed in addressing how children figure out argument structure in their language? Head turning, act out, or classical intermodal preferential looking procedures (see chapter 2 for descriptions of extensions to the classical

intermodal preferential measure) have been useful, but they do not zero in on how language comprehension builds up through real time. These methods characteristically merely reveal the statistically most prevalent preferences of children's language processing apparatus across entire trials of sentence comprehension. There is now truly online child and adult psycholinguistic work examining moment-to-moment changes in cognitive processes during comprehension, tapped mostly through changes in direction and duration of eye-gaze (see chapter 3). This work demonstrates that comprehenders rapidly start predicting meanings about an entire construction's meaning from the first word on, revising interpretations when necessary upon encounter of subsequent words.

As a relevant example which was followed up by crosslinguistic research, in Snedeker and Trueswell (2004) participants were asked to move some objects around as they listened to instructions, and, importantly, their eye-gazes were monitored throughout the trials, using the method of the visual world paradigm (see chapter X). In the critical conditions the instructions were made ambiguous for guiding the choice of objects. The verb in the instructions was altered to lead to different semantic biases in sentences with similar prepositional phrases such as (1) *tickle the pig with the fan* (instrument biased) (2) *choose the cow with the fork* (modifier biased), (2) *feel the frog with the feather* (unbiased). For example, when the critical verb was one that typically appeared with an instrument as in (1), it was expected that hearing of the verb such as *tickle* would quickly divert the participants' attention to a potential instrument such as a fan as a solitary object rather than a pig holding a fan, which was a distractor object. This hypothesis held true both for five-year-olds and adults; both age groups were affected by the meaning of the sentence-initial verb in shaping their interpretations. Snedeker and Trueswell (2004) concluded that the verb meaning establishes a bias, affecting the participants' interpretation of the prepositional phrase well

in advance of their encounter of the phrase. The participants' reliance on verb meaning over other cues in resolving structural ambiguities was used to support the idea that verbs are the primary linguistic units in predicting the remaining argument structure of a sentence.

Crosslinguistic research was essential to assess whether these findings and interpretations can be transferred to other languages. As seen in examples 1 to 3 above, verbs appear at the outset of sentences in English directives. Thus, their core role in predicting the rest of construction meaning could well be due to their initial position in the sentence. To test this hunch, Choi and Trueswell (in press) turned to Korean, a verb-final language, with an eye-tracking study. Their experiments with 4- and 5-year-olds showed that, unlike adults, children had difficulty in remedying an initial destination-like interpretation of *naypkhin-ey* 'napkin-on' when they encounter a verbal form such *cipu-sey-yo* 'pick up' instead of a verb congruent with their initial guess such as *nohu-sey-yo* 'put'. If verbs were the most informative elements of argument structure in all languages, a change in the trail of interpretation would have been less effortful and lead to less error-free action patterns in children's enactments of the sentences. Thus, English children's failure to supersede the initially presented verb-biased information with disambiguating content appearing later in a sentence is then not indicative of a universal tendency to abide by verb meaning despite later incongruent information. Taken together, the English and the Korean studies point to the primacy of early arriving cues over the late-arriving ones in online sentence meaning computation, as it is hard for preschool children to attenuate initial misinterpretations in light of later evidence.

This sequence of eye-gaze studies is a good example of how crosslinguistic research can lead to streamlining of initial universalistic explanations. More studies should be

conducted to determine whether other linguistic elements than the verb facilitate predictive processing of sentence meaning in variable word order languages. Kamide, Scheepers, and Haywood's study (2003) with a case marking language (German) showed that adults use case-marking information on the initial noun to anticipate the rest of the argument structure of a sentence. Such experimental crosslinguistic studies should be carried out with child learners of morphologically complex languages, to determine whether anchors for parsing mechanisms differ across languages.

What these crosslinguistic and cross-sectional experimental studies set down are the components of argument structure knowledge or how these components get differentially utilized during real-time language comprehension. Yet, the developmental processes driving such knowledge remain evasive. More crosslinguistic work should be directed towards search of these processes in child-directed discourse. The role of language that children hear in conversational sequences with caregivers is often proposed to be part of this developmental process, because unquestionably it is such child-directed language that displays the typological features of a language. Küntay and Slobin (1996) showed that Turkish mothers display many interesting features of the target language, such as word order alternations and range of morphology, via variation sets that are characterized by a sequence of utterances with a constant communicative intention but varying forms. Such studies complement what is lacking in purely experimental or typological studies by demonstrating the input characteristics, that is, how typological factors are manifested to the child in real interactions. Although recording, transcription, coding, and analysis of interactive discourse is effortful (see chapter 12), the outcome is well worth the effort. For example, Budwig, Narasimhan, & Srivastava (2006) demonstrated that rich morphosyntactic cues to the transitive-intransitive distinction in Hindi child-directed speech led Hindi

children's comprehension of such a distinction at an earlier age than English-speaking children. Stoll, Abbot-Smith, and Lieven (2009) examined child-directed speech in Russian, German, and English, languages with typologically varying flexibility in word ordering. Their question was whether the high degree of lexical repetitiveness found in the initial strings of English caregivers would carry over to typologically different languages—the analyses revealed that it did. Ural, Yüret, Koçbaş, Ketrez, and Küntay (2009) found that the accusative morpheme is more effective than the number of nouns in child-directed utterances for a machine-learner to determine the transitivity of a verb.

Setting aside these recent studies, we still know very little about how actual child-directed discourse is structured in non-English languages (Stoll, 2009) and even less about how these patterns could be drawn out by the learner in acquisition of grammatical patterns such as argument structure. This situation of relative ignorance surely warrants effortful crosslinguistic research on caregiver-child discourse.

When researchers obtain discourse surrounding children across languages, it is important to make sure that the recorded contexts are relevant and have similar organizations in all the cultures considered. Tardif, Gelman, and Xu (1999), for example, showed that both English and Chinese children used more nouns in book-reading contexts and more verbs during toy-play contexts, and provided a qualification to an original proposal that Chinese learners have proportionally more verbs than nouns in their early vocabularies compared to English learners. Thus, it is important to choose or create comparable discourse contexts across cultures, especially if the samples of speech collected are small and do not allow for natural variation across a variety of activities. Other methodological considerations are who to include among the providers of speech to the target children and where to do

the recording. In common practice, the children are recorded indoors in interaction with their mothers, i.e., primary caregivers. However, dyadic interactions between children and mothers where children participate in interactions as legitimate communicative partners might not be relevant in certain non-industrialized or rural contexts. In a situation with Chintang learners in Eastern Nepal, where toddlers play outside within groups of other children for most of the day, Stoll, Bickel, Lieven, Banjade, Bhatta, Gaenszle, Paudyal, Pettigrew, Rai, Rai, and Rai (submitted) placed a video camera and an external microphone close to the area where children played. Most recordings took place outside of house and included all the child-surrounding discourse. Thus, crosslinguistic researchers need to be watchful of regular living arrangements of their participants so that they tap culturally relevant settings. In addition, it might not be appropriate to videotape in some cultures—some Turkish mothers did not allow us to record their faces during a block-construction task with their children, but permitted us to record their hands and voices.

#### *Domain 2: Reference with demonstrative pronouns*

Demonstrative pronouns such as *this*, *that*, *here*, and *there* provide a typical way to communicate about external objects and locations in conversations. Such forms are ubiquitous in interaction, but their meanings are not inherently but contextually specified. Because the usage of these so-called deictic forms speaks to the question of how communicative convergence takes place between interactive partners, their study lies at the heart of the field of linguistic pragmatics. Although demonstrative pronouns (and deictic systems, in general) are pervasive in languages, linguistic typologists have just recently begun to explore how they work in diverse languages (Levinson, 2004).

The coverage of demonstrative pronouns is older in the field of child language, however. Child language researchers analyzing productions of language from transcripts could not escape noticing that demonstrative pronouns were frequent among the very early utterances. Clark and Senkul (1978) found that demonstratives used in conjunction with a pointing gesture are among the first few words that children produce. It is not surprising that the gestural-referential usage of demonstrative pronouns emerges before vocabulary development involving content words. With demonstratives, communicators can use pointing-like gestures to uniquely identify what exactly they are referring to among physical objects surrounding them. However, by their very nature of context-dependency in naturalistic discourse, children's choice of certain demonstrative pronouns over others did not easily lend itself to an analysis of the dimensions that govern their usage.

Until recently both the literature of linguistic typology and early child language work have made the assumption that demonstratives primarily encode spatial distinctions (Levinson, 2004; but see Diessel, 2006). In other words, the choice of a particular demonstrative form from a set (e.g., choice of *this* or *that*) was seen to be dependent on spatial factors such as degree of distance of the referent from a speaker or addressee. Clark and Sengul (1978) found that young English speakers take several years to learn the "distance principle" as a semantic axis to govern their choice of a specific demonstrative from the paradigm, although demonstratives are very common in early child language. More recently, however, linguistic systems that encode non-spatial semantic dimensions came to the attention of linguistic typologists (Diessel, 2006; Levinson, 2004). What do these systems look like and what kind of developmental challenges do they pose to their learners in comparison to the spatial system exemplified in English?

Özyürek and Kita (2000) examined conversations among Japanese-speaking and Turkish-speaking adults and found that the three-way demonstrative systems in these languages were not entirely spatially oriented as proposed by the grammarians of the respective languages. In other words, a certain “third” pronoun, *şu* in Turkish and *so* in Japanese, was found to be used to direct an addressee’s attention to a new referent, independently of the distance of this referent from the speaker or the addressee. In both languages, these attention-bidding pronouns could be used to refer to very near referents, such as spots on the speaker’s body, or very far objects, such as buildings disappearing far in the horizon. The other two pronouns of the paradigm, i.e., *bu* and *o* in Turkish, were employed only when there was an already established shared attentional focus between the interlocutors. In those cases, *bu* was reserved for referents closer to the speaker and *o* for those that are near the addressee. The salient difference of this three-way system from the two-way system of demonstratives in English prompted a crosslinguistically framed study with Turkish children (Küntay and Özyürek, 2006).

#### Procedure

In order to study the acquisition of the three-way demonstrative system in Turkish, we conducted a cross-sectional, semi-experimental study with preschool children and adults working on a joint task in pairs. The task required from the participants was reconstructing a lego model based on a picture provided by the researcher, using several blocks of different sizes and colors. Such an activity, we thought, would confront an often-encountered challenge to effectively balance between experimental control and ecological validity in studies with children learning any language, and could also easily be carried out by college-age adults. In addition, we wanted to maximize the occurrence of demonstrative pronouns

by implicit task-based demands. In that regard, we expected that a task that calls for joint manipulation of physical objects with a visually accessible goal state (i.e., the pictured model) would elicit many demonstrative forms, leading to reference to objects in varying distances from both of the interactants. Further, to achieve the goal, speakers would often call for shifted attentional states from their recipients with regard to the referents, because there were many individual lego pieces (both pictured and actual) that could be referred to at any point in the task. All these experimental manipulations would be created unobtrusively—that is, neither the adults nor the children could plausibly guess what exactly in their behaviors the researchers were interested in, being mostly preoccupied with perfecting their constructions. The task requires minimal training of experimenters and is appropriate to be used in cultures where request for block-play is not unusual.

The lego construction sessions of pairs of friends at the ages of 4 and 6, and college-age adults were video-recorded for 12 minutes each. Video-recording ensured that non-verbal behaviors accompanying demonstrative pronouns, such as gaze and gesture, would later be tracked. The transcripts of all the sessions were then obtained from the videotapes, and were first segmented into utterances. The task fulfilled its promise of providing a sizeable sample of demonstrative pronouns from all three of the age groups included. Over one-third (38%) of the utterances in adult conversations, and about 20% of the children's utterances, contained at least one demonstrative pronoun. All the utterances containing demonstrative pronouns were then tagged with respect to the type of the demonstrative pronoun, i.e., *bu*, *şu*, or *o*. We considered all the language-relevant morphological contexts that demonstratives were used in (i.e. locative *-da*, accusative *-ı*, dative *-a*) in addition to when they were used as adnominals (e.g., *bu parça* 'this piece') as belonging to that certain type of the demonstrative. In tagging linguistic forms such as the three demonstrative

pronouns in Turkish, researchers should take into consideration morphological and/or phonological variants of the target forms.

The obtained utterances with demonstratives were then coded by two trained coders as these coders watched the videotapes. These coders were not informed about the motivations and the expectations of the study. The codings included the relative distance of the referent from the speaker of the utterance and the presence of the addressee's eye gaze on the referent just before the use of the demonstrative by the speaker. To examine intercoder agreement, a third trained coder coded 25% of the utterances where demonstratives were used in respect to the referent's relative distance and the addressee's eye-gaze on the referent. The interrater reliability was 86% for the distance measure, and 89% for the eye-gaze measure. Some of the disagreements were actual errors, so these were corrected. For the cases of unresolvable ambiguity in the data in relation to the coding category, the original codings were retained.

If we were to obtain comparable data in another language, say in Japanese, it is important that the same stimuli are provided to the participants and the recording precision is equal in the two situations so that the same categories could be coded. Features such as relative distance and eye-gaze status of the participants could be coded in any culture as long as the recording was done appropriately to allow such coding. The same extensive training should be given to coders so that they are familiar with the coding schema. Especially, when coders are coding for nonverbal features, video samples could be cross-coded by native speakers of other languages than that of the participants'. Usually, being a native speaker is not a requirement for coding nonverbal behavior, and this procedure ensures that the two research groups have comparative fidelity.

## Data

The procedure yielded a coded file as an output. The coded data were first analyzed in terms of the distributional patterns of each type of demonstrative in the conversations of each group, using the chi-square test. In addition, we analyzed how each demonstrative usage co-occurred with the coded features of the conversational interaction, i.e. distance of referents and addressee's eye-gaze patterns using repeated-measures ANOVA.

The distribution data indicated that in children's conversations the distribution of demonstrative pronouns differed from that in adults, i.e., children used more *bu* than *şu* instances while the adults used more *şu* than *bu* instances. Analysis of the demonstrative usage in relation to the nonverbal coding categories confirmed that one of the demonstrative pronouns in Turkish, *şu*, was used to invite the addressee's attention to focus on a referent, independent of this referent's spatial proximity to the interactants. As for the children's use of demonstratives, we showed that 4- and 6-year-old Turkish speakers are not yet at adult levels in using the contrast between *şu* and the other two demonstratives to manage their partner's attentional status. On the other hand, Turkish children took distance into account in their contrastive use of *bu* and *o*, reserving *bu* for close and *o* for farther away referents. The discrepancy of the child demonstrative pronoun system from the adult one in Turkish can be used to challenge a claim that demonstrative pronouns are basic and easy to acquire across languages (Diessel, 2006). When faced with the task of designing the most appropriate demonstrative form in fitting with the recipient's attentional status during fast-flowing conversations, Turkish 6-year-olds do not appear to perform at par with adults with regard to the pragmatic implications of the demonstratives.

The Küntay and Özyürek (2006) study is not strictly crosslinguistic in the sense that it does not involve any explicit comparison across different linguistic communities. However, it contains an implicit comparison because the divergence of the Turkish demonstrative pronoun system from the English one is conspicuous and the method used is as close to the naturalistic as possible. The methodological approach in this study is easily crosslinguistically transportable, and should clearly be replicated in languages with a similar system of demonstratives such as Japanese and more standard systems such as English.

In sum, the crosslinguistic approach can be fruitfully used to study morphosyntactic development or pragmatic development in addition to domains that are not demonstrated in this chapter. In combining the search for the “universal”, the “particular”, and the “typological” in language development (Slobin, 1997), the crosslinguistic framework could be adopted as complementary to any method covered in this book.

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### **Key terms**

### **Further reading and resources**

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