

EARLY MORPHOLOGICAL DEVELOPMENT OF INDONESIAN CHILDREN

Patuan Raja

Abstract: Makalah ini berupaya mensintesis perkembangan morfologi empat orang anak Indonesia, yang telah dilaporkan pada kesempatan berbeda-beda, yang berusia antara 1;6 dan 3;10 pada saat data kebahasaan mereka dikumpulkan. Pada kajian aslinya, masing-masing anak diamati dan ujaran mereka yang muncul secara alami direkam. Makalah ini menunjukkan, antara lain, bahwa baik kemunculan awal maupun frekuensi penggunaan yang tinggi tidaklah berimplikasi pemerolehan awal. Dapat pula dikemukakan bahwa pada usia 3 tahun anak Indonesia mungkin sudah memiliki potensi untuk memperoleh keenam morfem terikat yang paling produktif dalam bahasa Indonesia informal. Juga dikemukakan sejumlah saran untuk penelitian lebih lanjut.

Key words: bahasa Indonesia, bahasa anak, morfologi, perkembangan awal.

Very young Indonesian children's utilization of bound morphemes is the central interest of the present article, which is supported from data taken from four children: *Echa* (Dardjowidjojo 2000), *Mara* and *Mogi* (Raja 2002), and *Mika* (Raja 2003b), with a somewhat more detailed discussion on Mika's. In the original studies, each of the children was separately followed for various lengths of time and their naturally occurring utterances together with the context were recorded.

In general, it has been said that children's morphological development starts as they reach age two (Clark and Clark 1977; Ingram 1989). Accord-

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ing to Cazden (as discussed in Larsen-Freeman and Long 1991), a bound morpheme is regarded ‘acquired’ if two criteria are met: (1) a child has produced it with three different free forms, and (2) she has produced it in as much as 90% of the context where it is required.

These are quite tight criteria, especially the second one. Peters (2002) is commenting on the same standard proposed by another author: “*Brown’s ‘90% criterion’ (1973) seems too strict. Certainly it is much stricter than needed to be able to say that a child is clearly ‘working on’ a particular class of morphemes.*” Therefore, in the present analysis of very young Indonesian children’s morphology, although the first criterion is going to be employed, the second criterion—that a child must be shown to produce a bound morpheme in at least 90% of the context—would not be adopted.

MIKA’S MORPHOLOGY

During a one-year observation, between age 1;6 and 2;6, Raja’s (2003b) subject named Mika utilized 10 bound morphemes. Table 1 displays these together with first observed occurrence, acquisition point decided based on Cazden’s first criterion, token or number of occurrences, and percentage of tokens.

The table shows that {-in} was the first affix to occur in the child’s recorded production at age 1;6(9), was acquired at age 1;7(11), and was highly productive with 124 tokens (or 26.55%) of all 467 bound morpheme production. Prefix {n-} first occurred also at age 1;6(9), was however acquired 47 weeks later, at age 2;5(9), and its productivity was low, with 4 tokens (.85%). Prefix {ber-} was also observed to occur early, at age 1;6(10), but this morpheme occurred only with two different stems so that it could not be regarded acquired.

PBM is short for Proto-Bound Morpheme, a mechanism similar to a bound morpheme (see Peters 2002). By means of this, Mika partially reduplicated a word, i.e., he reduplicated the first syllable of a word, sometimes with consonant alternation, attaching relatively consistent meanings to the process. Thus, for example, he would produce [βαβαπα?] from *bapak*, [ʔʔβυ], [ʔμβυ] or [μβυ] from *ibu*, [α?α?α?] from *Aa*, [χυχυχυ] from *susu*, and [βοβοβο] from *bobo* (Raja 2003b).

Table 1. Mika's Bound Morphemes: First Occurrence, Acquisition Point, and Use Frequency

No	Bound Form	First Occurrence	Acquisition Point	Tokens	Percentage
1	-in	1;6 (9)	1;7 (11)	124	26.55
2	n-	1;6 (9)	2;5 (9)	4	.85
3	Ber-	1;6 (10)	—	2	.42
4	PBM {r}	1;7 (15)	1;7 (28)	97	20.77
5	di-	1;7 (17)	2;2 (11)	7	1.49
6	-an	1;7 (17)	1;9 (20)	32	6.85
7	-ku	2;1 (9)	2;2 (18)	9	1.92
8	-nya	2;1 (10)	2;2 (15)	141	30.19
9	{R}	2;1 (13)	2;1 (22)	46	9.85
10	ke-an	2;5 (2)	2;5 (12)	5	1.07
				467	99.96

Source: Raja (2003b)

Table 1 reveals that the idiosyncratic bound form or PBM {r} was observed to occur early at age 1;7(15), acquired 13 days later at age 1;7 (28), and was one of the three most productive affixes, with 97 occurrences (20.77%). Prefix {di-} had a similar history as the prefix {n-} in that it was observed to occur early at age 1;7(17) but was acquired quite late at age 2;2(11); and it also had a low utilization frequency—7 occurrences only (1.49%). The last one to occur early was suffix {-an} at age 1;7 (17), which could also be regarded as acquired rather early at age 1;9(20). This morpheme is one of two bound forms with moderate use frequency, with 32 occurrences (6.85%)—the other one being {R}.

The first six affixes in Table 1 were observed to occur early. Two of them, {-in} and {r}, were acquired early; another two, {n-} and {di-}, were acquired late; one of the six, {-an}, was acquired rather early; and one, {ber-} could not be regarded as acquired during the one-year observation. The remaining four, to be discussed below, were observed to occur late but all were observed to be acquired.

Suffix {-ku} was first observed to occur at age 2;1(9), was acquired 6 weeks later, at age 2;2(18), and was used with low frequency—9 occurrences (1.92%). The occurrence of this particular suffix in Mika's corpus data is going to be further commented upon later on. The most productive af-

fix, {-nya}, was first observed to occur at age 2;1(10), acquired 5 weeks later at age 2;2(15), and produced with very high frequency—141 occurrences (30.19%). The third late occurring bound morpheme was {R}. It was first observed to occur at age 2;1(13), acquired at age 2;1(22), and utilized with moderate frequency—46 occurrences (9.85%). The last affix to occur during the one-year observation was {ke-an}, which occurred at age 2;5(2), was acquired 10 days later at age 2;5(12), and used with low productivity—5 occurrences (1.07%).

One thing that emerges is that early occurrence does not automatically mean early acquisition. Prefixes {n-} and {di-} were observed to occur early, but they turned out to be acquired late. Even worse is prefix {ber-}, which occurred early but until the observation ended it should be categorized as not acquired. Another thing is that early occurrence is not necessarily related to productivity. Two of the six early occurring affixes, {-in} and the idiosyncratic {r}, were indeed produced with high frequency. However, the most productive bound form, {-nya}, turned out to be among those occurring late.

PRODUCTIVITY OVER TIME

Figure 1 presents the number of Mika's vocalizations containing bound morphemes per week. There are two sets of bars in the figure: the first reflect the numbers of his expressions containing bound morphemes including his idiosyncratic PBM while the second reflect the numbers with PBM excluded.

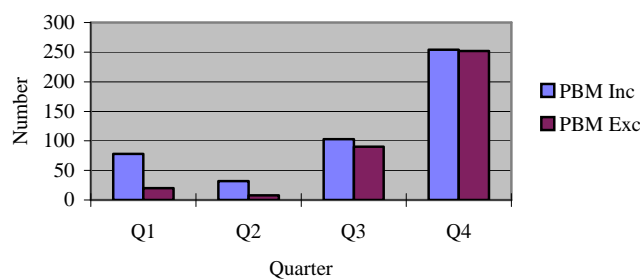


Figure 1. Number of Expressions with Bound Forms Per Quarter

One thing immediately emerging from Figure 1 is that the number of the child's vocalizations containing bound morphemes generally increased through time: that in Quarter 3 is greater than that in Quarter 1 and that in Quarter 2; in turn, that in Quarter 4 is greater than that in Quarter 3. Another thing is that the number of the child's expressions containing PBM seems to affect the productivity of affixes as whole only in Quarters 1, 2, and 3, especially in Weeks 7 through 37. In the last two weeks of Quarter 3, i.e., in Weeks 38 and 39, and almost entirely in Quarter 4, except in Weeks 45 and 48, there is no more effect of this particular affix on the productivity of his bound morphemes as a whole.

The fact that the child's utilization of affixes increased sharply in Quarters 3 and 4 might be related with his remarkable decrease of productive vocabulary acquisition rate, a phenomenon termed Vocabulary Growth Ease, which was observed to occur when he was 1;9 (Raja 2003b). It is forwarded that, when children slow down on their productive vocabulary acquisition, they might be paying attention to the other elements of the language they are acquiring. In other words, when children appear stagnant in terms of new word production growth, they might be focusing their mind on the morphology of the language, as it did happen to Mika.

In the second half of Quarter 1, he was busy experimenting with his idiosyncratic PBM, resulting in high productivity of this morpheme in the period mentioned. In Quarter 2, although he still produced a considerable number of it, the frequency noticeably decreased. At the same time, his utilization frequency of other affixes was equally low. What happened during this period might be that the child came to realize that his idiosyncratic PBM did not belong to the language he was acquiring and that therefore he was paying attention to and internalizing its system of affixes, thus resulting in his acquisition of adult language bound morphemes in Quarters 3 and 4 and with high productivity. Thus, it might be said that Vocabulary Growth Ease, is somehow related to, although not necessarily determinant to, children's morphological development.

DEATH OF PBM

It has been mentioned how the productivity of Mika's PBM decreased over time. Figure 2 visually illustrates the percentage across the four quarters more impressively. The only image emerging is that his own-made idiosyn-

cratic PBM was unmistakably leading to its death since it could be well predicted that in the quarter after the observation ended the child would no longer utilize the affix.

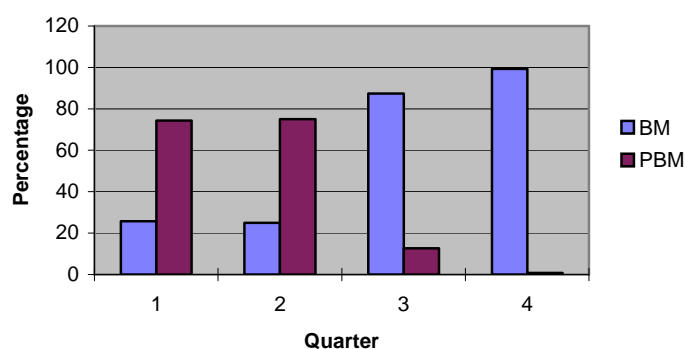


Figure 2. Bound and Proto-Bound Morphemes Across Quarters

The disappearance of Mika's idiosyncratic PBM could be explained by relating it to the emergence of separate lexical items in his language. In other words, the loss of the affix from his language was in a sense brought about by the lexicalization of each of the meanings that he had previously expressed by means of the morpheme, except for the emphatic meaning, for which the child might perhaps have had to rely on syntax. At the same time, this phenomenon might also confirm the proposition that, especially in the development of morphology, children might temporarily get themselves into 'blind alleys' which do not lead them any closer to adult language system and which they must get themselves out of again (see Peters 2002), as Mika evidently did by abandoning his own-made idiosyncratic PBM {r}.

Nevertheless, the very fact that the child created, used albeit not permanently, and eventually abandoned a bound morpheme of some sort is interesting in itself. For one thing, it might revive the conflicting rivalry between langue and competence. Mika had reached the point where he had to create a bound morpheme, the beginning of which could very likely have happened by chance. The child did work out a true bound morpheme, and he did make it work expressing regulated meanings to serve his needs in his daily interaction with other people around him, who in actuality were able to compre-

hend the meanings of his idiosyncratic affix. This should be the competence, the psychological fact of language, which permits a lot of individual creativity on the part of its speakers.

However, there seem to be limits to this inner creativity. The question is why Mika abandoned his own-made bound form while in fact it was still capable of serving his needs. The fact is that, although the people with whom he interacted day to day were capable of understanding it, they did not and were apparently not enticed to incorporate the morpheme into their language, as reflected in Mika's corpus data. For the child, then, these people, or more accurately the lexico-grammar systems of these people, should be the embodiment of the language, the social fact of language, which imposes a degree of collective solidarity and loyalty on its speakers. Thus, the tension between the inner creative competence and the social conventional system might be put forward to explain the phenomenon that children in developing their morphology might create their own idiosyncratic bound forms only to abandon them later after a period of successful utilization.

INDONESIAN CHILDREN'S AFFIXES

Table 2 displays affixes produced by four different Indonesian children at different ages: Mara at 3;6 and Mogi at 3;10 (Raja 2002), Echa at 3;0 (Dardjowidjojo 2000), and Mika at 2;6 (Raja 2003b). All the affixes are displayed in the order of their productivity—from the most productive to the least, except for Echa's, which are ordered alphabetically, for there is no mentioning of the productivity of her affixes.

Table 2. Indonesian Children's Affixes

No	Mara 3;6	%	Mogi 3;10	%	Echa 3;0 *	%	Mika 2;6	%
1	{-nya}	36.33	{-nya}	34.09	{-an}	—	{-nya}	30.19
2	{di-}	20.26	{-in}	22.35	{beR-}	—	{-in}	26.55
3	{-in}	15.76	{di-}	10.61	{di-}	—	{r}	20.77
4	{R}	8.68	{R}	7.58	{-in}	—	{R}	9.85
5	{-an}	6.43	{-an}	6.82	{ke-an}	—	{-an}	6.85
6	{n-}	5.14	{n-}	4.92	{meN-}	—	{-ku}	1.92
7	{ke-an}	2.25	{se-}	3.03	{-nya}	—	{di-}	1.49
8	{ke-} ¹	1.93	{ke-}	2.65	{peN-}	—	{ke-an}	1.07

No	Mara 3;6	%	Mogi 3;10	%	Echa 3;0 *	%	Mika 2;6	%
9	{nge-}	1.29	{-ku}	2.65	{R}	—	{n-}	.85
10	{se-}	.96	{ber-}	2.27	{ter-}	—	{ber-}	.42
11	{ke-} ²	.32	{ke-an}	1.52				
12	{me-}	.32	{ter-}	.76				
13	{ter-}	.32	{nge-}	.38				
14			{me-}	.38				

*) *Ordered alphabetically*

One thing worth noticing from Table 2 is that while Mara and Echa were reported not to utilize {-ku}, Mogi and Mika were observed to produce the suffix with a considerable use frequency: Mogi's {-ku} fills the ninth while Mika's even sits on the sixth place in the order of use frequency. This reflects the penetration of some Javanese aspects into their language. Mara, Mogi, and Mika are brothers. With the family, they moved and lived in Malang, East Java, for three years from September 1999 to August 2002. At their data collection time respectively, Mara had been living in Malang for one month, Mogi for two years three months, and Mika for one year three months.

It is interesting to note, again, that Mika's {-ku} is on the sixth place while Mogi's on the ninth in the order of use frequency, meaning that relative to other affixes Mika utilized this particular suffix more frequently than Mogi did despite the fact that Mogi had had a longer exposure to Javanese. This might be accountable by their different ages of arrival in Malang: Mogi arrived at 1;6 while Mika at 0;2. Thus, it can be said that both the length of exposure to and the age of first contact with Javanese interact in determining the occurrence and the use frequency of suffix {-ku} in the corpus data of the two children.

Table 2 also reveals a number of things, the most prominent of which is that the suffix {-nya} turns out to be the most productive in the language of three children: Mara, Mogi, and Mika, while it is also recorded in the language of Echa. It should be noted, however, that this particular morpheme was not among the first to be acquired by Mika—it was first recorded in Week 32 at age 2;1(10) and was acquired 5 weeks later in Week 37 at age 2;2(15). Indeed, by occurrence, it is the eighth affix that emerged in the

child's language (Table 1), while by acquisition it occupies the seventh place.

Ochs (1982) finds that the Samoan children's late acquisition of ergative case marking is "*caused primarily by the fact that expression of the case marker in the adult language is sociolinguistically variable, with speech between household members showing the lowest frequency...*" According to her, then, the low frequency of the marking in the linguistic exposure lead to its late acquisition by the children. Following her argument, high frequency would lead to early acquisition. However, this is not true with Mika's acquisition of {-nya}.

Mara and Mogi (the first two children in Table 2) are Mika's elder brothers. Together with another two elder brothers, parents, and a maid, they constitute 'other people' with whom Mika made daily interaction during the observation. Excluding the maid, whose first language is Javanese and who speaks Bahasa Indonesia with an accent, the two boys represent one third of these people. Therefore, it could be reasonably accepted that in the informal Bahasa Indonesia spoken by this family as a small speech community, the suffix {-nya} is used with high frequency, as reflected by the two boy's language corpus data. Now, with such high frequency of this morpheme in the exposure, it turned out that Mika was recorded to acquire it rather late, only after {-in}, {r}, {-an}, {R}, and {di-}, while it is clear that these suffixes that Mika acquired earlier than {-nya} are found with lower frequency than {-nya} in the language of the people around him.

Thus, high use frequency of a certain bound morpheme in the language that children are exposed to does not automatically mean early acquisition of that morpheme by the children. The reverse should equally reasonably true: low frequency does not necessarily imply late acquisition. In addition to frequency, there must be some other factors that interact and determine why some affixes are acquired early and why some others are acquired late. For example, in the case of {-in}, the first bound form acquired by Mika at age 1;7(11), it might be that this morpheme was acquired very early since it was very useful for the child to manipulate other people around him: to ask them to feed him, to have them get something for him, to have them fix his broken toy, to have them clothe him, and so on. In short, children's level of social growth might be a good candidate for another factor affecting their bound morpheme acquisition in addition to frequency, as so might their level of cognitive development.

Another thing emerging from Table 2 is that Mara's six most productive affixes {-nya}, {di-}, {-in}, {R}, {-an}, and {n-} are exactly identical with Mogi's although the second and third places are in reverse order: Mara's {di-} comes second and his {-in} comes third while Mogi's {-in} comes second and his {di-} comes third. It should be noted as well that the six affixes were also utilized by Echa if some allowance is made to reckon her {meN-} as {n-} based on the consideration that they are in complementary distribution. If these three children's language corpus could be taken to reflect the informal spoken variety of Bahasa Indonesia—something logical though there seems to be nothing in the literature of Bahasa Indonesia to support this, it appears that by age 2;6 Mika had already acquired the whole six most productive affixes of the variety even though he still produced two of them, {di-} and {n-}, with low frequency.

CLOSING REMARKS

First of all, it could be concluded that in the acquisition of morphology, early occurrence of a certain bound morpheme does not automatically indicate that it would be acquired early. Second, high use frequency of a certain bound morpheme in the language that children are exposed to does not automatically mean early acquisition of that morpheme by the children. The reverse should equally be true: low frequency does not necessarily imply late acquisition. In addition to frequency, there must be some other factors that interact and determine why some affixes are acquired early and why some others are acquired late. Children's current level of social growth might affect their bound morpheme acquisition in addition to frequency, as so might their level of cognitive development.

Third, when children appear stagnant in new word production, they might be focusing their mind on the morphology of the language. Thus, Vocabulary Growth Ease, might somehow be related also, although not necessarily determinant, to children's morphological development.

Fourth, the disappearance of Mika's idiosyncratic PBM could be explained by relating it to the emergence of separate lexical items in his language. In other words, the loss of the affix from the child's language was in a sense brought about by the lexicalization of each of the meanings he had previously expressed through the morpheme. The tension between inner creative competence and social conventional system might be forwarded to

account for the phenomenon that children in developing their morphology might create their own idiosyncratic bound forms only to abandon them later after a period of successful utilization.

Fifth, concerning the intrusion of some Javanese morphology into Mogi's and Mika's corpus data, especially the suffix {-ku}, it could be asserted that both the length of exposure to and the age of first contact with the local language seem to interact in determining not only the occurrence and but also the use frequency of the suffix in the language of the two children.

Sixth, if Echa's, Mara's and Mogi's language corpus could be taken to reflect the informal spoken variety of Bahasa Indonesia, by age 2;6 Mika had already acquired the whole six most productive affixes even though he still produced two of them, {di-} and {n-}, with low frequency. Thus, it might be reasonable to state that before age three, Indonesian children acquiring Bahasa Indonesia as their first language might have the potential to have acquired the six most productive affixes of the informal spoken variety of Bahasa Indonesia.

Seventh, it should be concluded that language acquisition is a process of making, testing, and revising hypotheses. Mika was evidently found to be making and testing hypotheses when he created and for some time used his idiosyncratic affix {r}. And he was definitely revising his hypothesis when in the end he abandoned it through lexicalization. This supports Peters' (1986) position that children acquire language by means of "*repeatedly constructing, testing, and revising hypotheses.*"

Eighth, language acquisition is the result of an interplay among a number of factors. There could be witnessed an interplay among exposure, Mika's social and cognitive growth, and his communication needs in the acquisition of {-nya}. This affix should be considered to be found with very high frequency in the child's linguistic exposure. However, he acquired the affix relatively late. This might be because at the time he did not feel any communication needs pressing him to express the meaning of {-nya}. This lack might be attributed to his then existing social and cognitive growth. Similarly, there could be witnessed an interplay among exposure, social and cognitive growth, inner linguistic creativity, and external linguistic conventions in Mika's creating the PBM {r}, his using it for some time, and his abandoning it after a period of communicatively successful utilization. It must have been from the linguistic exposure that the child extracted the probability of creating {r}. This in turn must have been brought about by his

communication needs, which must have partly been dictated by his social and cognitive growth. The novel {r} was the result of his inner linguistic creativity: competence. Its abandonment indicated the very strong force imposed onto him by the societal linguistic conventions: langue.

SUGGESTIONS FOR FURTHER RESEARCH

First of all, it should be suggested that similar studies into Indonesian children's early morphological development involving more subjects are deemed necessary to be carried out. This is so since any child's language development inevitably reflects universal, language-specific, and idiosyncratic characteristics. To arrive at concrete universals, as this term is defined by Erickson (1986), concerning child language acquisition, findings of more studies each involving more subjects need to be synthesized. Only then could individual children's idiosyncraticities be identified and eliminated, thus, establishing a more general picture of the morphological development of Indonesian children.

Secondly, it should be investigated further whether or not Indonesian children, as well as children acquiring any language, do have a tendency and potential to create idiosyncratic bound morphemes or PBMs, successfully utilize them for a certain period of time in interaction with others, and finally abandon them.

Finally, in the present analysis of Indonesian children's morphology, occasions arise where more credible inferences, especially concerning the frequency of use, could be arrived at if only there were an adequate contemporary description about it in the actual use of the informal code of Bahasa Indonesia by adult native speakers. In the same line, Volterra and Antinucci (1979) are of the opinion that "*It seems indispensable that, when analyzing the development of negation in child language, to have a correct and complete analysis of negation in adult language....*" Therefore, it is deemed important that the informal code of Bahasa Indonesia be investigated, perhaps not only for the sake of child language studies but also as an independent subject of interest.

REFERENCES

- Clark, H. H. and Clark, E. V. 1977. *Psychology and Language: An Introduction to Psycholinguistics*. San Diego: Harcourt Brace Jovanovich.
- Dardjowidjojo, S. 2000. *Echa: Kisah Pemerolehan Bahasa Anak Indonesia*. Jakarta: Grasindo.
- Erickson, F. 1986. *Qualitative Methods in Research on Teaching*. In M. C. Whittrock (Ed.), *Handbook of Research on Teaching*. New York: Macmillan.
- Ingram, D. 1989. *First Language Acquisition: Method, Description, and Explanation*. Cambridge: Cambridge University Press.
- Larsen-Freeman, D., and Long, M. H. 1991. *An Introduction to Second Language Acquisition Research*. London: Longman.
- Ochs, E. 1982. *Ergativity and Word Order in Samoan Child Language*. *Language*, Vol. 58, No 3.
- Peters, A. M. 1986. *Early Syntax*. In Fletcher, P., and Garman, M. (Eds.), *Language Acquisition: Studies in First Language Development*. Cambridge: Cambridge University Press.
- Peters, A. M. 2002. *Filler Syllables: What is Their Status in Emerging Grammar?* (<http://www2.hawaii.edu/~ann/filler.pdf>) Downloaded September 18, 2002.
- Raja, P. 2002. *The Meanings of -Nya in the Language of Two Four-Year-Old Children*. Paper presented at ISMIL 6, Pulau Bintan, Riau, 3-5 August 2002.
- Raja, P. 2003a. *An Idiosyncratic Affix?* Paper presented at KOLITA 1, Unika Atma Jaya, Jakarta, 17-18 February 2003.
- Raja, P. 2003b. *The Language of an Indonesian Child Named Mika in the Telegraphic and Simple Sentence Stages*. Unpublished doctoral dissertation. Malang: Universitas Negeri Malang.
- Volterra, V., and Antinucci, F. 1979. *Negation in Child Language: A Pragmatic Study*. In Ochs, E., and Schieffelin, B.B. (Eds.), *Developmental Pragmatics*. New York: Academic Press.