

Quiché Mayan speech to children*

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ABSTRACT

Details of the linguistic modifications in speech to children are provided for the Mayan language Quiché. Quiché input is evaluated with respect to 17 features listed in Ferguson (1978). Eight additional features are noted for Quiché speech to children: whispering, initial-syllable deletion, BT forms for verbs, a verbal suffix that appears exclusively in speech to children, a relatively fixed word order with relatively fewer overt noun phrases, more imperatives, and a special interpretive routine. Quiché parents have a special register for speaking to young children. However, Quiché speech to children has only five of the features that Ferguson cites: repetition, BT forms for qualities, compound verbs, diminutives, and special sounds. This suggests that the features of speech to children are not universal, but are determined by the conventions for interacting with children in each community. Functional explanations of such features will have to take this degree of cultural variation into consideration.

INTRODUCTION

There is, by now, an extensive body of literature describing middle-class speech to children learning English (see Farwell 1973, Vorster 1975, Gleitman, Newport & Gleitman 1984 for reviews). The robustness of these findings has led some researchers to conclude that caretaker speech might play a functional role in language learning, 'possibly assisting in the acquisition of linguistic structure, the development of interactional patterns, the transmission of

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in the care of older sisters or grandmothers. The young child is most often ignored and conversation revolves around matters of interest to the adults or older children. My interest in the speech of young children altered the situation by making the children the centre of attention. Most of the speech addressed to the children consisted in getting them to respond to my advances or comply with their mothers' requests rather than commenting on the child's ongoing activity or engaging in conversation.

I collected the Quiché data during the course of a longitudinal study of morpheme acquisition in 1976-7 (Pye 1980). I visited the children in their own homes for a one-hour play session. Quiché was the predominant language in all the households, although a few Spanish words and phrases occasionally appear in the transcripts. Two native Quiché assistants visited the children's homes with me and helped transcribe the tapes.

For this study, I isolated sections of caretaker speech to three of the youngest Quiché children I studied. A Tun (male) was 1;10 and had a lexicon of less than fifty words. Al Tiyan (female) was 2;0 and had a basically holophrastic expressive ability with a mean length of utterance in morphemes (MLU) of 1.31. Al Chay (female) was 2;9 and was using one- to two-word expressive utterances with an MLU of 1.57. A Tun's mother's sample contains 89 sentences while those of the other two mothers have a hundred. I used the first samples that I recorded with Al Tiyan and Al Chay and the second sample for A Tun. I had to use different samples to find enough examples of the mother's speech to adults for A Tun and Al Chay. I used A Tun's first sample (recorded when he was 1;7) and Al Chay's thirteenth (when she was 3;1). The sample of Al Chay's mother's speech to adults contains 50 sentences while the other two samples have 100. I only used the mother's sentences if the context made it clear who the mother was addressing, and eliminated sentences that were partially formed or unintelligible.

LINGUISTIC FEATURES

Prosody

Ferguson (1978) lists three prosodic features that are widely reported for speech to children: high pitch, exaggerated contours and slow rate (see also Blount 1981, Garnica 1977, Stern, Spieker, Barnett & MacKain 1983). An acoustic analysis of selected prosodic features in the Quiché mothers' speech was performed (Ratner & Pye 1984). This study was based on a total of 20 noise-free utterances for each mother to their children and to an adult. We analysed the data on a PM 201 frequency-intensity analyser marketed by Voice Identification, Inc. This instrument extracts and plots fundamental frequency values, contours and averages for any portion of an utterance up to nine seconds in duration. It automatically sums F_0 values and averages

cultural values, and the expression of the user's affective relationship with the addressee' (Ferguson 1978: 213-15). Ferguson lists a set of features for caretaker speech in 27 different societies around the world. The functional role of caretaker speech is challenged by findings from cultures with different patterns of child-care interaction (Eisenberg 1982, Miller 1982, Ochs 1982, Schieffelin 1979, Stross 1972, Ward 1971, Watson-Gegeo & Gegeo 1982). However, none of these studies provides full details for the linguistic modifications which Ferguson lists. In this paper I provide such details for Quiché, a Mayan language spoken by more than half a million people living in the western highland region of Guatemala.

METHOD

I carried out my investigation in Zunil, a small village near Quetzaltenango, Guatemala's second largest city. According to the 1973 Guatemalan census, Zunil had 5,741 inhabitants, of whom 90 per cent are classified as Indian. The village lies in a narrow river valley which divides it into two parts. The houses are clustered together around the public buildings, there being almost no flat land available. The family is the main unit of social organization. The majority of families engage in subsistence farming of the traditional crops of maize, beans and squash. Their annual cash income is approximately \$400 (US) per annum. The average house compound in Zunil has two small rooms: one is a kitchen while the other serves as bedroom, workroom and storage space. The vast majority of houses have dirt floors and adobe walls. A few houses have electricity, mostly in the form of a single electric light bulb. Women must carry water in by hand from their neighbourhood water tap. During the dry season (November to May) these may run dry, so the women are forced to hunt through the town until they find a tap that still has water. Families in Zunil have only a very few material possessions. Their furniture may consist of a chest for storing clothes and a few chairs. Most people sleep on straw mats spread on the floor. There are no bathrooms or privies; people simply go out the back of their houses or in the fields. Cooking is done on an open fire in the middle of the kitchen floor.

Babies are mainly in the care of their mothers. They keep the babies close to them at all times, either strapped to their back, in a cradle of rags nearby, or beside them when they sleep. The mothers are quick to interpret any movement or vocalization as a signal to feed their babies, which they accomplish without interrupting their own activities. Vocal interaction between infants and parents is minimal, although there is some variation between parents in this regard. They certainly lack any concept of talking with their children for the sake of stimulating their linguistic development. Infants accompany their mothers on the daily round of errands to the village market, water tap, wash basin, or visits with family and friends. Toddlers may be left

TABLE 1. Prosodic features of Quiché speech to child and adult listeners

Child...	A Tun		Al Tiyaan		Al Chay	
	Child	Adult	Child	Adult	Child	Adult
Average F_0	243.35	245.55	212.9	229.33	228.75 ^a	269 ^a
Range	134.2	147.2	120.52	133.23	230.05	234.95
Terminal change	-27.95	-56.6	-51.04	-58.71	-20.4	-9.85

^a Adult-directed vs. child-directed comparison (t value) significant at 0.05 level (two-tailed).

them across any portion of the utterance. As shown in Table 1 Quiché mothers do not exhibit significant prosodic adjustments when speaking to their children. Their mean fundamental frequency, frequency range (defined as the difference between the highest and lowest F_0 recorded within an utterance) and terminal pitch contour (defined as the last unidirectional change greater than 5 Hz) were all similar in speech to children and adults. Quiché mothers do use exaggerated intonation, but confine its use to infrequent exclamations to both children and adults (Stross (1972) mentions its use with corrections in another Mayan language, Tzeltal). The Quiché mothers frequently reduced their voice so much that it became a whisper. At the same time, the speech rate continues at a normal pace or may even be increased slightly (as in Tzeltal, Stross 1972: 7).

Phonology

Ferguson (1978) lists four phonological features for speech to children: cluster reduction, liquid substitution, reduplication and special sounds. The syllable structure of Quiché minimizes the number of potential consonant clusters so that even if cluster reduction occurred it would not be obvious. Words with a final consonant cluster including glottal stop (e.g. *meɾk* < Sp. *muñeco* 'doll') appear in caretaker speech with this cluster intact. Elsewhere in my data, the word for 'clothes' *ats'yaq* is produced as *tʃa:q*. This may be the only example of cluster reduction in my entire corpus. In the sample of Al Chay's mother's speech which I analysed, *ats'yaq* appears in its unreduced form (the word was not used by the other two mothers).

There is a marked tendency on the part of Quiché caretakers to drop word-initial syllables when addressing children. A Tun's mother produced *xawuf* 'a roasted bean' as *wuf* and *sapaɾt* (< Sp. *sapato* 'shoe') as *paɾt*. Al Tiyaan's mother produced *alith* 'girl' as *lih* and *Tiyaan* as *ya:n*. Out of 11 polysyllabic common noun types in A Tun's mother's speech, five (45%)

were reduced (13 of 21 polysyllabic noun tokens). There were six reduced tokens of one type (*r-afɔ:f* 'his/her-home' reduced to *fɔ:f*). Al Tiyaan's mother's speech sample contained 12 polysyllabic noun types of which one (8%) was reduced (one of 40 noun tokens). Al Tiyaan's mother produced 19 tokens of the unreduced form of *alith*. There was no instance of reduced nouns in the mothers' speech to adults. This process may be an effect of stress, since stress usually falls on the final syllable of Quiché words (see Pye 1983 for a description of a similar interaction between stress and the form of children's first words in Quiché). An additional process must be involved in the preservation of unstressed syllables in speech to children, especially for verbs.

A Tun's and Al Tiyaan's mothers reduced verbs in the same fashion. A Tun's mother reduced 28% of her verb types (four of 14) or 20% of her verb tokens (15 of 75). The verb *-tif* 'spill' accounted for ten of these verb tokens and was produced as *tif* rather than *f-tif-ik* (aspect-root-termination). I would have expected it to appear as the final stressed syllable *fik*. Al Tiyaan's mother reduced 38% of her verb types (14 of 37) and 20% of her verb tokens (44 of 221). The verb *-ets'an* 'play' accounted for 18 of Al Tiyaan's mother's reduced verb tokens (see below). Al Chay's mother had one reduced verb type (6%) with seven tokens in its reduced form (6% of 115 verb tokens). All of the mothers reduced the verbs by dropping the initial syllable rather than one or more syllables. A Tun's mother, for example, produced the verb *tʃatʃoɾqoq* 'speak' (*tʃ-at-tʃoɾq-oq*, aspect-subject-root-termination) as *tʃoɾqoq*. This is a syllable-deletion process rather than morpheme reduction; Al Tiyaan's mother produced the verb *tʃatets'anoq* 'play' (*tʃ-at-ets'-an-oq*, aspect-subject-root-intransitive suffix-termination) as *tets'anoq*, splitting the subject marker by the syllable boundary. The different rates of word reduction among the three Quiché mothers suggest that the process may be prevalent among caretakers of children under two, perhaps in imitation of the children's speech.

I did not find any examples of substitutions for liquids or fricatives in the mothers' speech. The children produced a liquid /l/ very early (Pye, Ingram & List 1984), so parents had little reason to substitute any other sound in its place. A Tun's mother showed a slight tendency to produce BT forms with an initial /t/ (*paɾtʃ* was produced as *taɾtʃ* and *ets'ab'al* was produced as *teb*). A Tun's mother also reduced a word with an initial glottalized consonant (producing *k'af* 'hurt' adj., as *ʔaf*), but she produced other words with initial glottalized consonants correctly (*q'a:q* 'fire'; *ts'i:ɾ* 'dog'). The idiosyncrasy and infrequency of such forms suggests that sound substitution is not a conventional feature of Quiché speech to children as much as an imitation of children's speech. Indeed, the lack of liquid substitutions in Quiché speech to children suggests that all sound substitutions in speech to children are imitative rather than simplifying. Further evidence for this hypothesis might come from a study of input in languages like French, in

which children make different liquid substitutions than do children learning English (Ingram 1979: 135).

Speech addressed to Quiché children does contain the only words (with the exception of Spanish loans) that have a voiced, apical stop /d/. They are special terms of endearment: *dih*, if addressed to a girl, and *dah*, if addressed to a boy. Both words have approximately the meaning of 'dear' in English. They may derive from the Quiché words for girl (*alith*) and boy (*alah*), with which they are used interchangeably. Thus the special sound /d/ and the initial-syllable reduction process are the only distinctive phonological features of speech to Quiché children (Stross 1972) does not mention any special phonological features for Tzeltal speech to children).

Lexicon

Ferguson lists five lexical features of speech to children: special kin terms and body part names, infant games, qualities, compound verbs and diminutives. Quiché does have a special lexicon that is unique to baby talk and recognized as such. The baby talk words and their meanings that I am aware of are the following.

- paʔ* Used by women and small children in place of -*fu:l* 'to urinate'.
- ʔiʔʃ* An exclamation of revulsion used by women and small children.
- ʔuʔʃ* Used by a parent to get a child to sit down.
- ʔu:ʃ* An exclamation of acclaim used by women and small children.
- ma* Used in place of -*k'am* 'take, bring'.
- niʃ* Used by a parent to get a child to climb on to their back for carrying; also used by young children in place of *meʔs* 'cat'.
- nuʔʃ* A small tortilla given to children.
- qux* Used instead of -*war* 'to sleep'.

The mothers and children also used *papa* in place of *tat* 'father', but it is not clear to me whether *papa* is a Quiché baby talk item or a Spanish loan. The Quiché babytalk words are noteworthy in that they include a relatively large number of verb substitutes. Verb compounding was almost absent from the mothers' speech, although A Turn's mother did use the expression *ʃu:ʔan e: tiʃ*, which incorporates the verb -(*b*)*an* 'do make'. An adult speaking to another adult would just use the verb *ʃʔiʃik* 'it spilled'. Verb compounding is a widespread feature in adult speech, including such idiomatic expressions as -*tix xun ʃoxoxo:em* 'dance' (lit. 'eat a dance') and -*ʃap ura:qik utʃi:ʔ* 'begin to yell' (lit. 'grab a yell of the mouth'). In addition, verbal compounding serves an important function in adult speech in incorporating Spanish verbs into the native lexicon. There are such expressions as -(*b*)*an enga:ar* 'deceive' (lit. 'do a deceiving') and -(*b*)*an pensar* 'think' (lit. 'do a thinking'). The use of verb compounding in adult speech may limit its use in speech to children. In any case, verb compounding is not unique to speech in children.

I did not observe Quiché parents engaged in any special games with their children. When I asked them if they knew of any games similar to nursery rhymes or finger games, they said they did not. Children five and over had a large repertoire of games (marbles, string figures, football), but these were not played with younger children. Twenty-five years ago, the ethnographer Ruth Bunzel made a similar observation:

The Quiché woman is a gentle and solicitous mother, but she never takes time off from serious occupations like weaving to play with her children, or to talk to them. There are no lullabies, no children's tales, no little games which adults play with children (1959: 101).

Stross (1972: 9) describes two speech games which a Tzeltal mother played with her 30-month-old daughter, but I did not observe anything similar to these among the Quiché families that I visited.

One highly salient lexical feature of Quiché speech to children is the diminutive adjective *inax*. The Quiché diminutive is a separate word that is placed in front of the noun it modifies, similar to the English word 'little' in such expressions as 'He has a little wagon' or 'She's wearing a little dress'. The first utterance in A Turn's mother's sample, *le:nax loʃʔe*: 'There's a little baby' contained this diminutive. Since Quiché parents use this diminutive to talk about any number of objects, no matter how big or small, I assume it carried a connotation of affection rather than being used in its actual descriptive sense. A variety of other adjectives are available to describe the smallness of things. A Turn's mother used the diminutive in five of her 89 utterances addressed to A Turn. Al Tiyan's mother used it in 23 % of her utterances, while Al Chay's mother did not use it in her first 100 utterances to Al Chay. The mothers only used the diminutive in speech to adults when repeating something their child had said.

Ferguson (1977: 225) speculates that the diminutive suffix characteristic of babytalk in English and many other languages might play a role in the development of the child's grammar 'since it may be the first morphological element which the child finds segmentable and thus may begin the development of derivational and inflectional morphology'. The Quiché word *inax* shows that diminutives do not inevitably appear as suffixes and, therefore, do not provide an easy connection between form and meaning. A deictic particle may serve this function in Quiché since it frequently appears at the end of nouns, verbs and even particles in speech to children. This particle appears at the end of the word *loʃʔ* 'baby' in the example from A Turn's mother above. This particle occurs in six (7 %) of A Turn's mother's utterances, 12 % of Al Tiyan's mother's utterances and 4 % of Al Chay's mother's utterances. However, it also occurred in 4 % of A Turn's mother's utterances to adults, 9 % of Al Tiyan's mother's utterances to adults and 2 % of Al Chay's mother's utterances.

In sum, Quiché babytalk contains several lexical features found in other speech communities, but it also has some differences (no verbal games, a diminutive which precedes its noun). Lexical features in speech to children do not provide a dependable source of clues for language analysis.

Syntax

The syntactic features that Ferguson lists are: short sentences, parataxis, telegraphic style and repetition (see Gleitman, Newport & Gleitman 1984, Cross 1977, Gleitman & Wanner 1982 for more extended discussion of the syntactic modifications in speech to children and their possible functions). MLU provides one measure of sentence length and morphological complexity. A Turn's mother had an MLU of 4.63 in her speech to A Turn and 5.32 in her speech to adults. Her longest sentence had 11 morphemes in both conditions. Al Tiyan's mother had an MLU of 5.31 in her speech to Al Tiyan and 5.61 in her speech to adults. Her longest sentence to Al Tiyan contained 14 morphemes while her longest sentence to adults had 13. Al Chay's mother had an MLU of 8.43 in her speech to Al Chay and 7.78 in her speech to adults. Her longest sentence to Al Chay contained 21 morphemes while her longest sentence to adults had 20. For comparison, Cross found that her sample of 16 Australian-born middle-class mothers had an MLU between 4.1 and 5.4 in speech to children aged 1;7-2;9 (1978: 208). Al Chay's mother's anomalously high MLU may be an effect of speech style and personality rather than Al Chay's stage of language acquisition. Her mother's utterances were extremely difficult to segment due to her rapid rate of speech and her tendency to add instructions on to the margins of her sentences.

The syllable-deletion process in the mothers' speech had a negligible effect on the morphology. The complex system of verb terminations (described in Pye 1983) was preserved. A Turn's mother's speech to A Turn contains two sentences where a verb of movement is incorporated into another verb stem (e.g. *k-o-e-in-k'am-a*; aspect-object-go-subject-root-termination, 'I'll go and bring it'). All of his mother's locative questions contain the locative pro-adverb *wi(h)* (e.g. *xawi kax?e*: *wih?*, 'Where will we go?'). The pro-adverb does not, by itself, encode any basic meaning, but shows that a locative phrase has been moved to preverbal position. A Turn's mother's speech also contains many sentences with verbal enclitics that encode the direction of the verb's action, the speaker's state of belief or the force of the imperative. Twenty-two of her 89 sentences to A Turn have verbal enclitics (25%), as do 26% of her sentences to adults.

Al Tiyan's mother's first hundred sentences to Al Tiyan contain three tokens of a verb with the causative suffix *-is* (e.g. *-b'im-is-ax*, walk-CAUSE-termination), one token of a verb in the passive voice (*-tsap-if*,

close-PASSIVE), three tokens of a verb with the instrumental suffix *-b'e* which emphasizes an instrument or locative constituent (e.g. *-ets'a-b'e-ax*, play-INSTRU-termination) and one token of root reduplication to intensify the verb's action (e.g. *-t(ar-ar-ex, carry-REDUP-termination)*). She also produced three verbs with incorporated movement. In addition, Al Tiyan's mother produced eight tokens of two verb types which contain a suffix that I have not been able to identify. Its use is restricted to verbs in the imperative addressed to children and may intensify the force of the imperative. The two examples from Al Tiyan's mother are *x-aw-i-fla(x)* (go-subject-see-?, 'Go look at it') and *q-a-k'a-fla(x)* (aspect-subject-bring-?, 'Go bring it'). This suffix is unusual for Quiché in that it replaces the final consonant of the verb root with /j/. Al Tiyan's mother used verbal enclitics in 17% of her sentences addressed to Al Tiyan and in 36% of her sentences to adults.

Since Quiché verbs have subject and object markers on the verb, adult speakers only use overt noun phrases to introduce or emphasize a particular referent. Table 2 shows the number of sentences with overt noun phrases in the speech samples from the children's mothers. The mothers appear to have used fewer overt noun phrases in their speech to children. They also appear to have used a word order that was more fixed when speaking to their children. For two-term sentences (sentences containing a verb and one noun phrase), the mothers used an average of 84% canonical word orders (VS and VO) in their speech to children and 70% canonical word orders in their speech to adults. The mothers also used more varied word orders for their three-term sentences to adults.

Finally, the Quiché mothers showed a curious symmetry in repetition patterns for their speech to children and adults. The repetition data is shown in Table 3. All three mothers show roughly the same amount of repetition in their speech to children as to adults, but when speaking to their children they repeat themselves more often than they repeat what others have said, while when addressing adults they repeat what another person has said more

TABLE 2. *Word orders of Quiché speech to child and adult listeners*

Child...	A Turn		Al Tiyan		Al Chay	
	Child	Adult	Child	Adult	Child	Adult
Addressed...						
VO	8	13	10	13	15	3
VS	—	4	7	8	3	4
OV	1	1	2	6	3	5
SV	—	2	—	3	3	1
VOS	—	—	1	1	4	1
VSO	—	1	—	1	—	1
SVO	—	—	—	—	—	1
OVS	—	—	—	4	—	—

TABLE 3. *Repetition patterns of Quiché speech to child and adult listeners (%)*

Child...	A Tu:n		Al Ti:yam		Al Cha:y	
	Child	Adult	Child	Adult	Child	Adult
Spontaneous	84	83	68.9	59.8	68	68
Self-repetitions	10	5	23.7	8.5	18	8
Other repetitions	5	12	7.3	31.6	14	24

often than what they say themselves. The mothers of the two youngest subjects (A Tu:n and Al Ti:yam) also use repetition more frequently than Al Cha:y's mother, although this may also be an effect of Al Cha:y's mother's unique speech style.

The syntactic features of speech to children in Quiché are not unequivocally simpler than the corresponding constructions in speech to adults. A more fixed word order stands out as the clearest syntactic difference between the two speech styles. Otherwise, they are about equal in morphological complexity, MLU and amount of repetition.

Discourse

Ferguson lists two features of discourse for speech to children: a more frequent use of questions and pronoun substitutions. The number of declaratives, imperatives, questions and exclamations for the mothers' speech to children and adults is shown in Table 4. I used verbal morphology rather than illocutionary force to identify each sentence type, since the former provides a more objective measurement. In these speech samples, the mothers used more questions when speaking to adults than to their own children. They used many more imperative sentences to their children in an attempt to get them playing and talking with my assistants.

Ferguson cites the use of the third person singular pronoun for the first and second person and the first person plural pronoun for the second singular. There was no instance of such pronoun shifts in the speech samples I

TABLE 4. *Types of sentence in Quiché speech to child and adult listeners (%)*

Child...	A Tu:n		Al Ti:yam		Al Cha:y	
	Child	Adult	Child	Adult	Child	Adult
Imperatives	50	5	59	—	76	2
Declaratives	28	78	26	77	14	64
Questions	15	16	2	19	10	32
Exclamations	5	1	12	4	—	2

examined, nor am I aware of any occurring anywhere else in my data. Quiché caretakers consistently use the second person singular in the imperative form of the verb when addressing their children. Where the first person plural is used, it always appears to be consistent with a plural interpretation. For example, the only instance where A Tu:n's mother uses this pronoun is in the question 'What should we go buy?', which is difficult to interpret as a suggestion that A Tu:n should go off by himself and buy something (especially since children under two are kept hidden from the gaze of strangers). There is one sentence of Al Ti:yam's mother in which she uses the second person plural pronoun rather than the second person singular, but this is not unambiguously a case of pronoun shift. Her intention was to have the two children, Al Ti:yam and her sister play together.

One significant feature of discourse addressed to Quiché children is the interpretive routine involving some form of the verb *-tʃaʔ* 'to say'. Unlike other Quiché verbs, even in speech to children, it frequently appears without the markers for aspect, person and clause-final position. The mothers use the bare stem when interpreting a sentence for the child and the full verb form when responding for the child. It always appears sentence finally, despite the fact that Quiché has a VOS word order. The following excerpt shows how such a routine operates:

(Al Ti:yam, her sister (3;4), her mother and my assistant talk about a plastic horse.)

Assistant: *A katʃ'ob' u-wa:ʃ l-a-tʃapom?*

Q yes/no you know its-face that-you-have caught?

Nam *Ay diyos:*

Oh God.

Alih tʃaʔ.

Girl he said.

Inax ke:x katʃaʔ.

Little horse you say.

Inax ke:x katʃaʔ.

Little horse you say.

Tets'ana k'ut eʔ!

Play then there.

Kets'an inax ke:x tʃaʔ.

Plays little horse he said.

Assistant: *Tʃijets'anoq if keb' eʔ.*

You play you two there.

Nam *Lih tʃaʔ.*

Girl he said.

Assistant: *Tʃijets'ana tʃi laləʔ.*

You play there.

Nam: *Tfjets'ana rick' Al Sepp fja?*
You play with Al Sepp he said.

In this episode, my assistant first asks Al Tiyan a question. Her mother attracts Al Tiyan's attention by means of an exclamation with exaggerated intonation followed by a hypocoristic and the bare stem *-fja?*. The mother then responds for Al Tiyan, using the same verb, but this time with both an aspect and person marker (*k-at-fja?*, aspect-subject-say 'you say'). When my assistant tells Al Tiyan to play with her sister, her mother uses the stem form once again to attract Al Tiyan's attention and then to repeat my assistant's suggestion that she play with her sister. This verb is also used less extensively outside speech to children in reciting narratives and myths (Norman 1976, Maxwell 1982) as well as in divination (Tedlock 1981). The three Quiché mothers whose speech I analysed used some form of *-fja?* in 67% of their sentences to children and in only 7% of their sentences to adults. Stross refers in passing to a similar routine in Tzeltal as a speech game played between mother and child (1972: 10), but does not provide details.

Parent-child exchanges involving a verb 'to say' have also been noted among Chicano, Kaluli and Black English speakers (Eisenberg 1982, Schiefelin 1979, Ward 1971). While such exchanges have similar forms, they serve very different communicative functions. The Kaluli use the verb *elema* 'say like this/that' as a teaching device to 'harden' their children's speech. Kaluli mothers use routines involving *elema* to initiate play, make requests, correct the child's utterance, or call out to others. Chicano parents, on the other hand, use the verb *dile* 'say to him/her' to teach their children how to behave (Eisenberg 1982: 113). *Dile* is used to teach politeness formulas as well as to recite the names of people and objects, or to correct the child's utterance. In comparison, Quiché mothers seem more preoccupied in attracting their child's attention or directing his activity. They use the verb *-fja?* to interpose themselves linguistically between their child and the person addressing him. They are less concerned with eliciting a vocal response than with insulating their child from direct contact with outsiders. These routines only appear to serve the same function: marking specific conversational routines and providing immature speakers with the correct verbal responses. Closer inspection suggests that the real purposes of such routines are determined by very different conceptions of children, language learning and social interaction.

The *-fja?* routine significantly increases the syntactic complexity of speech to children in Quiché. The one measure of syntactic complexity which supports the motherese hypothesis is the number of clauses in the average maternal utterance (Newport, Gleitman & Gleitman 1977: 122). Cross found that her mothers used an average of 1.02 clauses per utterance. Counting *fja?* as a separate clause significantly increases the Quiché mothers' score on this

measure. Al Tiyan's mother used an average of 1.57 clauses per utterance (1.01 clauses per utterance without counting *-fja?*). The mother of A Tum used 1.49 clauses per utterance (1.06 without *-fja?*), and Al Char'y's mother used 1.78 clauses per utterance (1.11 without *-fja?*). A *-fja?* clause increases overall syntactic complexity at very little cost in processing requirements, which may be why it is tolerated in speech to children.

In sum, Quiché discourse directed to children does not contain the features mentioned by Ferguson, but does have two others: a marked increase in the number of imperative sentences and a special interpretive routine.

DISCUSSION

In this paper I have evaluated 17 features commonly cited for speech to children and noted eight additional features for Quiché: whispering, initial-syllable deletion, BT forms for verbs, a verbal suffix that appears exclusively in speech to children, a more fixed word order with relatively fewer overt noun phrases, more imperatives, and a special interpretive routine. Some of these features (whispering, BT forms for verbs, more imperatives) have been reported in other languages, including English (Blount 1981, Newport *et al.* 1977). Quiché speech to children has only five of the features that Ferguson cites: repetition, BT forms for qualities, compound verbs, diminutives, and special sounds. Quiché parents, like all the other parents that have been recorded to date, have a special style or register for speaking to young children.

Several features of Quiché speech to children show the effect of linguistic structure of the adult language on the modifications in speech to children. The syllable structure of Quiché minimizes the need for consonant cluster reduction. Special sounds can only be special in relation to the regular adult phonology. Sound substitutions likewise show the effect of the adult phonological system in that they are more likely to occur for sounds with marginal roles in the adult system (Pye *et al.* 1984 make an attempt to operationalize the notion of marginal role in phonology). The form that diminutives take is an obvious example of the adult language's influence, as are the special verb suffixes. I showed elsewhere (Pye 1980, 1983) that telegraphic speech styles are determined to a large extent by the rules of stress-placement in languages; inflectional deletion in English speech to children becomes initial-syllable deletion in Quiché. Finally, even the discourse properties of speech to children are affected by the structure of the adult language as evident in the previous discussion of the *-fja?* routine and its cognates in other languages. The adult language imposes its own restrictions on the ways it can be modified; there is no single BT target language available to infants.

Differences between Quiché speech to children and speech to children in

other communities sharply contradict functionalist explanations of input features. In particular, it no longer seems possible to maintain the strong version of the MOTHERESE HYPOTHESIS, which predicts that the features of speech to children play an essential role in language acquisition. If this were the case, these features would have to be present in the speech to children in every language community without exception. The features generally mentioned to substantiate this hypothesis include: high pitch, exaggerated intonation, slow rates of speech, reduplication, hypocorism, names of body parts, onomatopoeia and pronoun shift (Ferguson 1978). Quiché speech to children has only one of these properties, the hypocoristics *dih* and *dah*. It would appear that no single feature need be present in the input for children to acquire language.

A weaker version of the motherese hypothesis claims only that some minimal number of features be present for children to learn language. This retreat from the strong version has the consequence that no single feature is necessary for children to learn a language. In order to be tested empirically, this version requires an explicit statement of how the features of the input affect learning. In the past, many researchers have argued that features of the input simplify the language, making the child's analysis of the grammar easier (Furrow, Nelson & Benedict 1979). Ferguson (1977: 212-13), for example, states that 'Sentences may be pronounced more slowly and articulated more carefully; vowels normally reduced or elided may be supplied; words, phrases or whole sentences may be repeated...'. Newport *et al.* (1977) take exception to this hypothesis as applied to English, pointing out that the input to children is more complex in many respects than speech to adults. As I have pointed out in this paper, not only does Quiché speech to children lack many of the simplifying features found in other communities, it also contains features which increase its complexity: special sounds, a special verbal suffix, few overt noun phrases, diminutives, and the *-ʔaʔ* routine. It would seem that the special features of speech to children are not simplifications. Thus, even the weak version of the motherese hypothesis does not account for the features in speech to children. Motherese was not designed as a language-teaching device.

I would suggest that the features of speech to children are culturally determined. In the first place, the structural characteristics of each language impose their own limitations on the features of caretaker speech. Secondly, the whole phenomenon of speech to children depends crucially upon cultural concepts about children and conventions for interacting with them. Such concepts can vary tremendously: Mohave parents believe that even foetuses about to be born are capable of understanding and responding to rational verbal admonitions (Devereux 1949); Kaluli parents do not feel their children are talking until they can produce two critical words, *no* 'mother' and *bo* 'breast' (Schieffelin 1979: 86). Quiché parents wait for their children's first

words before conversing with them. Thus cultural concepts of children determine when parents begin talking to them. I would argue that these concepts are also responsible for how parents talk to their children. The rules which determine the features of speech to children are part of a larger set of rules determining what type of speech is suitable for any social setting (Hymes 1974). These rules ultimately depend on cultural definitions of the various social roles and settings as well as the behaviour (linguistic and nonlinguistic) that is proper for each. The child's job is not only to figure out how to speak, but how to behave. In particular, they will have to learn that the distinguishing features of caretaker speech in their community may only be suitable for addressing children.

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The effect of feedback on young children's inappropriate word usage*

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ABSTRACT

This study compared the effects of three types of adult feedback (acceptance, correction with joint labelling, and correction with explanation) on young children's inappropriate word usage. Four children were visited in their homes twice a week, from the time they were between 1;1 and 1;3 until they were approximately 1;7. Differential feedback was applied by the experimenter whenever the children extended a term to referents that were inappropriate, but similar to appropriate ones. Comprehension and production probes were administered prior to, during, and following the feedback trials to assess changes in word usage over time. Results indicated that the three types of feedback varied in their relative effectiveness in facilitating a positive change in word usage. Correction with explanation was more effective than correction with joint labelling, which in turn was more effective than simple acceptance.

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