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AN ABSTRACT OF THE THESIS OF Gary Frank Wood for the Master of Arts in Teaching English to Speakers of Other Languages presented May 3, 1990.

Title: The Unified Speech Period of a Bilingual Child.

APPROVED BY THE MEMBERS OF THE THESIS COMMITTEE:

Susan H. Foster, Chair

Thomas C. Buell

Marjorie Terdal

Mary E. Gordon

Previous studies of bilingual infants learning their languages simultaneously have suggested that such children go through what is known as a unified speech period in which they make no differentiation between the languages in question and in which they frequently use mixed utterances (Arnberg, 1987; Grosjen, 1982; Leopold, 1939; & Skutnabb-Kangas, 1981). To

test the validity of the claim that there is such a period, an English-Japanese bilingual child from one year and six months of age (1;6) through two years and six months of age (2;6) was observed and his speech recorded.

In order to investigate the unified language claim, written diaries of the child's utterances were kept from 1;6 years of age through 2;0 (and intermittently later) and audio tapes were made for the seven month period from 2;0 through 2;6. Because of the varying nature of the data, this study focused primarily on the latter seven-month period as this is where the greatest amount of useful data was garnered. The diaries and tapes were analyzed in terms of both lexicon and syntax. The analysis focused on evidence of synonymy versus lack of overlap in the lexicons of the two languages, and on syntactic mixing. In the latter case, the focus was on determining the extent to which such mixing could be seen as evidence of one or two syntactic systems.

Analysis of the data suggested that while he used some cross-language synonyms, this child did not rely on them to any great extent. These words comprised only about 5.7% of the total recorded vocabulary. The analysis of the syntactic mixing suggested that, contrary to some previous studies, the separation of the two languages into two systems was already well established at the age of two years, and that there is very little evidence of a unified period. Rather, the two systems are differentiated, and employed for reasons that are discussed.

THE UNIFIED SPEECH PERIOD OF A BILINGUAL CHILD

by

GARY FRANK WOOD

A thesis submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS

in

TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES

Portland State University
1990

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DEDICATION

This thesis is dedicated to the memory of Clara Stone Wood (1906-1989).

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INTRODUCTION

It has been suggested that simultaneous bilingual infants (i.e., infants who learn two languages before the age of three) go through an initial period of about three years in which they mix their two languages both lexically and syntactically (Grosjean, 1982 & Volterra & Taeschner, 1977). In order to see if this was the case for my Japanese-English simultaneous bilingual son Evan, I collected and analyzed naturally occurring spoken language data from the period in which the unified period is considered to occur. The hypothesis was that this child would do a lot of lexical and syntactic mixing, and that this would indicate a confused period for bilingual infants in which they attempt to sort out the two languages. The analysis suggested that there was, in fact, little mixing done by Evan at the syntactic level. The data mostly came from audio recordings in naturalistic settings and it has been analyzed mainly in terms of Evan's recorded lexicon and syntax from the age of 2;0 through 2;7.

REVIEW OF THE LITERATURE

There are several terms that need to be defined for the purposes of this research. The term bilingual has been variously defined. Weinreich (1953) broadly defined it as "the practice of alternately using two languages." Bloomfield (1933), on the other hand, has given us a more rigid definition with "...native-like control of two languages." Bilingualism is a complex phenomenon and each of the various definitions has had its

problems.¹ To avoid these difficulties in a definition of bilingualism, some recent researchers have tended to follow one of two paths.

One way is to adopt an established definition and to add some caveats as Albert and Obler (1978) have done. They are satisfied with Weinreich's definition, but ask all researchers to consider that there are some unresolved issues at work with that particular definition. The first is the issue of whether or not multilingualism is an extension of bilingualism and if the two states are qualitatively different. The second is a consideration of whether two distinct languages are being employed or not (i.e., Should bidialectalism, diglossia, and even wide register control come under the same rubric?). Third they ask us if the use of language entails any minimal fluency criterion and, if so, what are the parameters of fluency? Last they tell us to consider what modalities (i.e., speaking, comprehension, writing, and reading) are to be considered in the practice of alternately using two languages.

Another way to define bilingualism is to attempt to "...work within the framework of a typology of bilingualism which allows for a clear delimitation of the particular area of investigation within a larger field." (Baetens-Beardsmore, 1982) What is meant here is to make, for example, a distinction between individual bilingualism and societal bilingualism and to attend to the fact that there are many and varying forms of bilingualism.

Even though a single appropriate and exhaustive definition has not been (and may never be) found, we do know two fundamental facts about

¹ For more concise overviews of the history of the definition of bilingualism, see Skutnabb-Kangas (1981) and Swain and Cummings (1982).

bilingualism. We first know that more than one language is involved.¹ More importantly we know that bilingualism is not a static condition. Rather it is dynamic and subject to change. It either progresses towards an ideal ambilingualism or regresses towards a monolingual condition (Baetens-Beardsmore, 1982). Ambilingualism here is the Halliday, McKintosh, and Strevens' (1970) term denoting the capability of "...functioning well in either...language...in all domains of activity and without any traces of the one language...in the other." This type of bilingualism is rare since most bilinguals are more dominant in one of the two languages. By dominance I mean that one language is employed more than the other.

An example of regression might be the "returnee" problem in Japan in which a language loss occurs among those young people who have lived for a considerable time outside of Japan and have returned to Japan. The language used in the former speech community quite often is unused and forgotten. A regressive transition is made from a bilingual condition to a monolingual one. It should be mentioned, however, that if these individuals are put back into the community of the atrophied language their linguistic ability can be reactivated while maintaining their native Japanese. This is an example of a progressive transition, i.e. from monolingualism to bilingualism (Yamamoto, 1987).

Bilingualism, then, is by its very nature unstable, and this is one of the deterrents in scholarly attempts to define bilingualism, as well as a factor in frustrating attempts to estimate sizes of bilingual populations in the world.

¹ As in Albert and Obler (1978), even the criteria to distinguish between distinct languages are problematic. For a further discussion see Skutnabb-Kangas (1981).

Dulay, Burt, and Krashen (1982) have estimated that there are more than a billion bilinguals in the world while Harding and Riley (1986) state that over half the world's population is bilingual. These authors, however, do not tell us their criteria for a bilingual condition, and we therefore have no way of knowing just how strictly they are defining bilingualism.

Given the confusion over the precise definition of the term 'bilingual,' a definition close to Weinreich's was selected as the most appropriate for this project. This definition has been articulated by Grosjean (1982), who defines bilingualism functionally as the use of two languages on a daily basis for the purposes of genuine communication. This was deemed most appropriate for the current study because the data were recorded in a natural family setting in which two languages were used daily for communication.

The term 'simultaneous' when used in regard to bilingual children generally denotes a speaker of two languages who has acquired two languages before the age of three. This is in contrast to a successive bilingual who has learned one of the languages in infancy and the second after the age of three (McLaughlin, 1978).

Another term to be defined is 'unified speech period.' A number of researchers have reported an initial period of about three years in which a bilingual infant makes no distinction between the two languages and mixes the lexicon and syntax of the two languages (Grosjean, 1982; Leopold, 1939; Ronjat, 1913 & Volterra & Taeschner, 1978). Grosjean describes Leopold's English-German bilingual daughter Hildegard's initial language development as one in which there was an initial mixed language stage that slowly separated into two language systems as she became aware of the two systems. Ronjat reports that his son Louis learned German from his mother

and French from his father and went through an initial phase in which his pronunciation was based upon a unified phonological system which was the same for both languages. Volterra and Taeschner propose a three-stage model of language development in the simultaneous bilingual child where the child initially has one lexical system that uses words from both languages and a single syntactic system, then moves into the second stage that has two different lexicons but retains a single syntactic system, and finally advances to the third stage of two separate lexicons and two syntaxes.

The most extensive study of the unified period remains that of Werner Leopold. A number of researchers (Arnberg, 1987; Fantini, 1985; Grosjean, 1982; Hakuta, 1986; & Skutnabb-Kangas, 1981) have analyzed and discussed Leopold's data in depth. Leopold, a professor of German at an American university, described the language development of his German-English-speaking daughter Hildegard in great detail. Hildegard was exposed to German from her father and English from her mother and from her peers. For Hildegard's initial language acquisition/learning period, she seemed to combine the two languages into one system. For example, the speech sounds she produced belonged to a single system which was not differentiated according to language. In her first and early sentences, she mixed English and German words and did not distinguish between two languages when she spoke to monolingual speakers of each language. Leopold and others state that she began showing signs of beginning to separate the two languages at the end of her second year (Arnberg, 1987).

Not all researchers, however, have agreed that there exists a unified speech period. Lindholm and Padilla (1978) argue that infant bilinguals keep the languages separate from the onset of language development

between the ages of 2;6 and 6;2, based upon language samples from five Spanish-English bilingual children. Only 2% of the total utterances they examined contained mixes. The most common type of mix they observed involved the insertion of single lexical items (mostly English nouns into Spanish utterances). They observed very few phrasal mixes and they concluded that language mixes do not constitute a major interference in the acquisition of bilingualism since children appear to differentiate their two linguistic systems from an early age.

Meisel (1989) absolutely rejects the idea of a unified speech period. Based upon studies of the speech of two French-German bilingual children from 1;0, his analysis suggests that bilingual children use different word order in both languages no later than the appearance of two or more word utterances.

Bergman (1976) proposes an independent development hypothesis:

As it is being acquired, each language is able to develop independently of the other with the same pattern of acquisition as is found in monolingual children learning that language.

It must be noted, though, that most of Bergman's data was of an anecdotal nature.

Redlinger and Park (1980) reported on the language mixing of four bilingual children (Danny, Marcus, Henrik, and Marc) over a five to eight month period with the children's ages 1;11, 2;0, 2;4, and 2;8, respectively at the onset of their study. They reported that in the beginning, Marcus, a Spanish-German bilingual, mixed in 30% of his utterances, but this had dropped to 21.2% after five and a half months. Danny, an English-German

bilingual, went from 20.8% to 3.7% in eight and a half months while Henrik, a French-German bilingual went from 11.9% mixed utterances to a mere 2.5% over eight months. Marc, a French-German bilingual (2;8 at the onset), went from 2.6% to 0% by 3;1. Their analysis revealed an initially higher rate of mixing which diminished with a growth in language development as measured in MLU (Mean Length of Utterance/See below). They concluded that the children in their study were at various stages in a gradual process of language differentiation, therefore providing support for the one-system (i.e., unified speech period) theory of bilingual acquisition. Their examination of the distribution of lexical substitutions by part of speech revealed that nouns were most frequently substituted by all of the children; however, more function words were substituted than content words overall.

Fantini (1985) stands in the middle of the debate as he reports some mixing by his Spanish-English son Mario¹ at 2;6 and 2;8. He reports no mixing before those two ages. This is not surprising as the length of utterances is usually only one or two words in this period. He claims that such mixing ceased after 2;8 and that the months following were of rapid syntactic development. This means, of course, that Fantini's data show mixing for only a three month period. Fantini's analysis was based upon an exploration of the interrelationships of speech and the children's environments from a sociolinguistic perspective focusing on the "use" of language.

¹ Mario may also be considered a trilingual as he also had a lot of input from Italian.

Finally, for the purposes of this project, a distinction also needs to be recognized between language- or code-mixing and code-switching. Although definitions vary, 'code-mixing' will be used to describe the insertion of one lexical item from one language into a sentence in another language (McClure, 1977). 'Code-switching,' on the other hand, entails the ability to switch from one language or dialect to another between clauses or phrases, or between discourse blocks (Skuttnabb-Kangas, 1981) according to the interlocutor, situational context, et cetera. Even changing registers can be considered a kind of code-switch.¹ This distinction is quite different from Redlinger and Park's (1980) as regards language mixing, which they describe as "indiscriminate combinations of elements from each language." Code-mixing is not the same as language mixing as defined by Redlinger and Park.

¹ From personal communication with Susan Foster

SUBJECT

As mentioned above, the subject for this study was my son Evan who is two years and ten months of age (2;10) as of this writing. Evan has lived with his older brother Ken (9;2), his Japanese mother, and American father since birth. For his initial nine months, Evan lived in Japan and was exposed to Enshu and Mikkawa dialects of Japanese from his family and friends and to English also from his family and friends. The dominant language in his environment was Japanese in this period.

Evan's brother Ken is a simultaneous Japanese-English bilingual whose Japanese was the dominant language until after the move to the United States, even though he had been attending an international school where English was the language of instruction. My wife and I are successive bilinguals in Japanese and English and our native tongues have always been our dominant ones.

When Evan was ten months old the family moved to the United States and Evan's language input now included not only the language of his brother, mother, and father, but also an aunt, a cousin, a grandmother, and a nurse, all of whom spoke English. The dominant language switched from Japanese to English in the environment surrounding Evan. At the time that this research concluded, the situation had changed slightly in that the cousin had moved and the grandmother had passed on.

Our family mixes languages a great deal. In the home, one can hear Japanese utterances, English utterances, mixed utterances, and idiosyncratic

ones (see below). It is not uncommon for one of us to begin a sentence in one language and finish it in another. We have never practiced the one person-one language strategy favored by so many who wish to encourage bilingual language acquisition. Not only do we switch codes for communication, but we play with language as well. An example of this might be if Evan were to utter something like "Wha chu going?" This is grammatically incorrect in English and could possibly mean "Where are you going?" or "What are you doing?" The family could in turn use "What chu going?" for either of the possible meanings. This, in fact, did happen and it was amusing for those of us who were the informed audience. The fact that our family code-switches is very important for the purposes of this project and distinguishes us from Redlinger and Park's subjects (1980). In their study, two families employed the one person-one language strategy (see below) and two code-mixed, but not within sentence boundaries. Our family, on the other hand, sometimes switches intrasententially.

PROCEDURE

DATA COLLECTION AND TRANSCRIPTION

This study began with my interest in the content and order of Evan's utterances. I began to jot them down whenever I heard one that I thought was new. Other family members started helping me to do the same. At that time, I had no idea that this would eventually become the beginning of this research. The casual data collection began when Evan was 0;9 and was the earliest data, most of which has not been used here.

Also when Evan was 0;9, his paternal grandmother began keeping informal diary entries on Evan's utterances. She was a monolingual speaker of English whose ear was perhaps not attuned to his Japanese utterances and the number of English utterances recorded in this diary was larger than the number of Japanese ones as she recorded 23 English utterances and only two Japanese ones. Six utterances she recorded would have to be called neutral ones (see below). Since the grandmother's ear was not attuned to Japanese and because of the paucity of data from this source, I have elected for the most part to eliminate that data from this discussion.

From 1;6 until 2;0, I recorded a number of utterances in a diary of my own in which I observed Evan and made notes on what he was saying to whom, what the interlocutors were saying, and on what I believed the meaning of his utterances were given the particular situations. Throughout the whole study (and up to the present) I have done this to a certain extent.

These data, though, have not been very helpful for the purposes of this research since, as with the data from Evan's grandmother's diary, the data are very limited; and when compared to the taped data, clearly do not provide a good record of Evan's overall language ability. However, in this five month period (from 1;6 to 1;11), I recorded 140 of Evan's utterances, 33 of which were multiple-word utterances and 107 of which were single-word utterances.

I began to make audio tape recordings at 2;0 of Evan and his interlocutors on a monthly basis. In some cases, these tapings were done when the participants did not know they were being recorded. This was done in order not to change or skew in any way what they were saying. In most cases, Evan did not know he was being recorded. His mother, Katsue, knew to a greater extent that the tape player was on than Ken did, and I always knew, as I was the one pushing the record button. The reason I give for Evan not knowing is that I don't believe that his cognitive facilities were well developed enough to completely understand the concept of audio recording on cassette tapes. In Katsue and Ken's case, I would quite often literally sneak up upon them with a cassette player on record and leave the tape recorder where they couldn't see it. As they moved from room to room, they would then notice that they were being recorded. I don't believe that this changed Katsue's speech much, while it seemed to affect Ken to a greater extent. I can not, however, say how many times the interlocutors knew they were being taped with any certainty, except to say that I was always aware of that fact. On the whole, I believe that this method was quite efficacious for gaining naturalistic ethnographic data on Evan's speech with little interference from the interlocutors knowing that they were being recorded.

These tapings proved to be the most valuable and reliable sources of data for this project and, in fact, have caused me to examine and report in detail only on the seven month period from 2;0 to 2;6. I do not believe that this data base is skewed in any major way because of the knowledge of the interlocutors that they were being recorded, especially as the data being discussed herein are for the most part only that of Evan's personal utterances.

Some of the problems inherent in collecting data through the use of audio tapes did occur in that tapes from some one-month periods tended to contain a greater number of utterances than others. Table I shows all the transcribable utterances at each age. The total data base of transcribed utterances may be found in Appendices A and B.¹ Most of the tapes were sixty minutes in length; but given that the data were collected in a naturalistic environment, some tapes contained more utterances than others. The reasons for this are varied; having to do with, for example, people going to sleep, electing to watch television rather than engage in conversation, interlocutors leaving the scene, et cetera.

After the tapes had been made, I transcribed Evan's utterances onto cards and then entered these data in two computer data bases, one for single- word utterances² and one for multiple-word utterances. Appendix A

¹ Japanese utterances have been rendered into Roman letters using the Hepburn system of *romaji* (i.e., Romanization, or the rendering of Japanese words into Roman script, lit. Roman letters) that is currently popular in Japan. This was done because this is the Romanization of Japanese I am most familiar with and also because of its current widespread acceptance in Japan. It might be noted here that Hepburn Romanization and the older *kunrenshiki* Romanization are not all that dissimilar.

² Which would not be useful in syntactic analysis

represents the single-word utterances and Appendix B represents the multiple-word utterances.

Tape quality was not always good, especially as the tapes had been made in many different situations such as the bath tub, in an auto, in front of a television set, or in a meal time situation. This created a lot of background noise that made the tapes difficult to transcribe at times. In addition, it was difficult to note Evan's utterances when more than one person spoke at the same time. In such cases, untranscribable utterances were discarded. However, it was possible to garner a fair amount of data from the tapes. Two tapes from the seven-month period in question were not used because of technical problems which rendered them incoherent. The tapings, though not reported on here, have continued since the conclusion of this study.

TABLE I

NUMBER OF UTTERANCES RECORDED AND ANALYZED

<u>Age</u>	<u>Number of Utterances Recorded and Analyzed</u>
2;0	48
2;1	391
2;2	1087
2;3	686
2;4	490
2;5	41
2;6	427

Total Number of Utterances: 3170

After all of Evan's transcribable utterances were transcribed, a determination was made as to from which language each word came from.

This proved to be especially difficult in a number of cases because Japanese has borrowed so heavily from the English language. So, for example, I had to judge in some cases as to whether Evan was saying the English 'bus' or the Japanese *basu*, the two being very similar in pronunciation. When a word had English phonology, it was recorded as an English one and when it had Japanese phonology it was assumed to be a Japanese word.¹ An exception, however, was made for personal names. All of these were counted as neutral (irrespective of pronunciation) except when they were uttered in complete sentences of either Japanese or English with no obvious mixing.

Most English names are pronounced differently in Japanese than in English. For example, Sesame Street's Big Bird is *biggu baado* in Japanese and Batman's nemesis, the Joker, is rendered as *za jokaa*. Ken, on the other hand, is pronounced the same in both languages. Japanese names are not changed as much when uttered by English speakers. NokoNoko remains the same. Evan did not utter any of the corporate names like Honda that speakers of English change the pronunciation of. In Japanese, the 'o' in Honda is spoken as the 'o' in the English word 'so,' while Americans give it an 'a' pronunciation as in the English word 'far.' For the purposes of this study, however, names have all been considered neutral, except in the syntactic

¹ Japanese has borrowed a great deal from English. Decisions had to be made on lexical items that are close phonologically because of a borrowing as in the case of shampoo versus *shampoo* (Poplack & Sankoff, 1984). In the same vein, some lexical items could only be termed neutral as they existed in both languages and were indistinguishable on phonological grounds. An example of this would be that ever so useful 'OK' that speakers of the languages in question employ.

analysis when they appeared in conjunction with words all from one language or the other.¹

Nonce borrowings, which I have determined to be neutral items lexically, also occurred as when Evan uttered 'fire' as 'faiya,' which is fire with Japanese pronunciation. Over a long period of time, bilinguals and bilingual families often create words. Over a long period of time, some of these words turn into full-fledged loanwords. Another of this type of neutral lexical item are loanwords like *kitty* and *monkey*, both of which have been borrowed from English into Japanese.² These are loanwords in the adult language. In Evan's case, it is not clear if they are from adult Japanese, have been reborrowed by Evan, or if they have come from English. Sometimes the choice is dependent on the differences in phonology. At other times the choice is very difficult because of similarities in phonology between the two languages.

UTTERANCE LENGTH ANALYSIS

A Mean Length of Utterance (MLU) analysis was performed using the protocols of Brown (1973).³ This was done in order to compare Evan's lengths of utterances with those of other simultaneous bilingual children. Under Brown's system, words are not counted, but rather morphemes. All

¹ Although no formal interrater reliability analysis was performed on the assignation of utterances, I feel confident that other bilingual speakers of English and Japanese would make their assignations in a very similar fashion to what I have done.

² It might also be noted here that most studies of code-switching eliminate names all together.

³ For a complete list of these protocols, please see Appendix C.

compound words (two or more free morphemes), proper names, and ritualized reduplications were counted as single words. Some examples here are Aunt Edna, birthday, and choo-choo train. For MLU calculations, bye-bye was counted as one morpheme; but later in the lexical analysis it was counted as two words. Irregular past tense verbs were counted as one morpheme unless there was evidence that both the irregular and past tense were being employed. Diminutive names like 'Evan-chan' (Master Evan¹) were also counted as one morpheme as were auxiliaries and catenatives (e.g., gonna and wanna). Inflections for possessives, plurals, third person singular, regular past tense, and progressives were all counted as separate morphemes. Fillers such as mm and oh were not counted as morphemes, but no, yeah, and hi were. Stutters counted as one morpheme. One modification to Brown's system, however, was employed. Since all the data were put into a computer data base and because of the nature of the data collection, it was possible to go beyond Brown's minimal 100 word limit and do an MLU calculation on the entire data. This is called a range count.

LEXICAL ANALYSIS

Following the MLU calculation, I compared the numbers of single versus multiple-word utterances over time. This was done in order to see if single-word utterances declined in number as multiple-word utterances grew in number. I also counted the multiple-word utterances in terms of numbers of word length, e.g., two-word versus three-word utterances, et

¹ The translation here is vague. - *Chan* is also a diminutive/honorific term of endearment.

cetera. This was done in order to examine the changing length of Evan's utterances. Please bear in mind here that it is not morphemes that were counted (as in the MLU calculations), but rather words. Morpheme counts were only used in MLU calculations.

In an attempt to estimate the size of Evan's expressive vocabulary in each language, I assigned his vocabulary into English, Japanese, neutral, and idiosyncratic categories and counted the number of items in each category. Neutral items were those words that can be found in both English or Japanese (such as OK) and proper names (like Mama, Papa, and Ken). Idiosyncratic words are those that Evan or the family made up that can not be found in English or Japanese (like *uin uin* for a siren sound) In addition, the neutral category was further analyzed in order to determine the number of proper names in this category in relation to other words.

This was followed by a survey of the lexicon to see what types of onomatopoeia, interjections, immediate imitations, idiosyncratic words, and baby talk expressions Evan was employing. After this, I surveyed the data for cross-language synonyms during the time period in question because Volterra and Taeschner (1977) have stated that in their first stage of a unified speech period for almost any word in one of a bilingual child's lexicons, there will not be a corresponding word in the other.

SYNTACTIC ANALYSIS

Analysis of the lexicon was followed by assignation of the multiple-utterances into the syntactic categories of English utterances with no mix, English utterances with a mix, Japanese utterances with no mix, Japanese

utterances with a mix, and a neutral utterance category. The expectation was that if there was a genuine unified speech period, there would be a large number of mixed utterances, as the literature reviewed suggested. However, as Meisel (1989) argues, mixed utterances don't necessarily indicate a unified speech period.

The decision as to which category to assign the utterances was made on the basis of word order and the language of the words in the utterances. Japanese is a Subject-Object-Verb (SOV) language while English has a Subject-Verb-Object (SVO) syntactic order. This meant of course that some two-word utterances would fall into a neutral category. For example, in English you can say "That's juice." and in Japanese this becomes *Are wa juusu desu* (that over there as for that juice is). Evan's two-word rendition of this was "*are* juice." There is no difference in the syntactic order as 'that' and *are* are the subjects while 'juice' and *juusu* are the objects.¹ From the data, I can't tell where Evan would have placed the verb had he used one. In Evan's utterance, as either an English or Japanese sentence, the verb is understood; though if employed it would have to come in the medial position in English while the Japanese verb here (*desu*) would have to come in the final position. I do not have enough information to say where Evan would have put a verb had he used one and am faced with an utterance with one word from Japanese and one from English. I can't call this utterance English or Japanese; rather we can only say that we don't know and assign it to a neutral category.

¹ Here *juusu* is actually a predicate nominal as it is in a sentence with the copula. It does, however, come in the same position that a true object would come.

Other word order constraints in the language also lead to neutral utterances. In Japanese, every modifier, whether an adjective, adverb, or others, will always precede what it modifies. The placement of the rest of the grammatical forms, for example adverbial phrases is very flexible. An example from Evan's data was when he said "*toto* here" (birdie here). The adult English form of this would be "The bird is here." The adult Japanese form would be "*Tori wa koko ni imasu*" (bird as for bird here is). In Evan's utterance, he used a baby talk form of *tori* with *toto* and used an English locative phrase with the adverb here. If we were to consider this to be either an English or Japanese sentence, the verb would be understood. In an adult English form, though, the verb would have to come in a medial position while it would have to come in the final position in an adult Japanese form. Again, I do not have enough information to say which language's syntax is operative here and so have assigned this utterance to the neutral category.

The use of Japanese verbs and particles is probably the most complex aspect of the language; while nouns and other parts of speech, although having their own peculiarities, are less complex than verbs and particles (Matsuoka McClain, 1981). Japanese also is a language that uses a highly stratified system of honorifics and a language that employs a great deal of ellipses. Japanese syntax may be complex, but it is perhaps not as difficult as some people assume it to be. The main verbs always occur at the end of a sentence and these verbs are agglutinous (i.e., word formation in which morphemes retain an independence of meaning and form rather than fusing or blending with combining elements). Any element that changes the status of these verbs, such as negation, desiderative, or passive forms will be attached to the end of the verb.

English, on the other hand, employs verbs in the medial position between the subject and object in most sentences. Verbs are not agglutinous and elements changing the verbs usually precede them. English does not employ ellipses as frequently as does Japanese and relies more on deictic terms. While having honorifics in English, these honorifics are not employed as frequently as which they are employed in Japanese.

Having decided on the basic syntax (English=SVO/Japanese=SOV), the next decision to be made was as to whether or not an utterance was completely English or Japanese. Those utterances with English syntax and at least one Japanese word were assigned to the English with mix category while utterances with Japanese syntax and at least one English word were assigned to the Japanese with mix category. One of Evan's utterances assigned to the English with mix category was "wha dis *toto*" (what's this birdie). If this utterance was from Japanese adult syntax, it would be *kono tori wa nan deshoo ka*; with the equivalent of 'this' (*kono*) in the initial position sententially. Thus, this is an English sentence with a Japanese word for 'bird' in it. Adult English syntax demands that 'this' be placed intrasententially. Another of Evan's utterances, juice *aru* (juice have), was assigned to the Japanese with mix category because the verb comes finally. In English the utterance would place the verb medially. 'Juice,' in this case was uttered with English pronunciation.

Again, because Japanese has borrowed so heavily from English, some judgement had to be employed and it may be that some utterances have

been coded in error. A best attempt approach was used and any errors, of course, are mine. ^{1 2 3}

¹ The words in the utterances were also assigned to categories of function versus content words and parts of speech. The scope of this research does not include an analysis of these two areas, but these assignments may be found in the appendices.

² All of the above procedures were also performed on the data in the period from 1;6 to 1;11. Although not discussed above, the results from that data were as follows. In the multiple word category, 17 utterances were found to be English with no mix, 8 were found to be Japanese with no mix, and 8 were found to be neutral. In the single word category, 42 utterances were found to be English, 39 were found to be Japanese, and 10 had to be declared neutral.

³ Quirk and Greenbaum's *A Concise Grammar of Contemporary English* was used to determine parts of speech in English, while Matsuoka McClain's *Handbook of Modern Grammar* was used to determine Japanese parts of speech.

RESULTS

MEAN LENGTH OF UTTERANCES

The MLU showed a steady increase over the seven month period from 2;0 to 2;6. It was 1.204 at 2;0 and 1.840 at 2;6. The increase can be seen in Figure 1. It should be noted that Evan's MLU at 2;0 was slightly lower than two bilingual children of the same age as Evan reported upon in Redlinger and Park (1980). Marcus, a Spanish-German bilingual, had an MLU of 1.39 at 2;0 and Danny, an English-German bilingual had an MLU of 1.92 at 2;0 in the Redlinger and Park study. At 2;5, Marcus' MLU was 2.21 compared to Evan's 1.75 at the same age while Danny's was 3.35 at 2;6. Vihman (1984) reports that her son Raivo, bilingual in English and Estonian, had an MLU of 1.02 at 1;7 and that it was well over 5 in both languages at 2;10. Table II and Figure 2 show a comparison of the four children. In all cases a steady increase in the length of utterance has been observed except for Danny from 2;2 to 2;3.

Figure 1. Increase in Evan's MLU.

TABLE II

COMPARISON OF DANNY, EVAN, MARCUS, AND RAIVO's MLU

<u>Age</u>	<u>MLU</u>
Danny	
1;11.22-2;0.12	1.92
2;0.13-2;1.23	2.46
2;1.24-2;3.24	3.00
2;3.25-2;5.8	2.92
2;5.9-2;6.18	3.35
2;6.19-2;8.7	4.07
Evan	
2;0	1.204
2;1	1.244
2;2	1.3116

TABLE II
COMPARISON OF DANNY, EVAN, MARCUS, AND RAIVO'S MLU
(continued)

Age	MLU
2;3	1.540
2;4	1.601
2;5	1.750
2;6	1.840
Marcus	
2;0.1-2;1.1	1.39
2;1.2-2;2.4	1.47
2;2.5-2;3.16	1.50
2;3.17-2;4.22	1.90
2;4.23-2;5.20	2.21
Raivo	
1;7	1.02
2;10	5+

Figure 2. Comparison of Danny, Evan, Marcus, & Raivo's MLU.

SINGLE- AND MULTIPLE-WORD UTTERANCES

It was not unexpected to find that as the number of Evan's single-word utterances declined, the number of multiple-word utterances increased. At 2;0, of Evan's utterances that I recorded, 79.167% of them were single-word utterances while 20.833% were multiple ones. By 2;6, the number of multiple-word utterances had increased to 45.902% while single ones had dropped to 54.098% of the total that I recorded. The trends can be observed in Table III and Figure 3 below. The total number of utterances tabulated for these purposes was 3189. Thus it seems clear that as Evan is capable of more complex utterances he makes use of them, although many single-word utterances continue to serve his communicative purposes long after he is capable of more complex expressions.

TABLE III

COMPARISON OF EVAN'S SINGLE-WORD AND MULTIPLE-WORD UTTERANCES

Age	SWU	%	MWU	%	Total
2;0	38	79.167	10	20.833	48
2;1	306	78.261	85	21.739	391
2;2	859	78.025	228	20.975	1087
2;3	442	64.431	244	35.569	686
2;4	346	70.612	144	29.388	490
2;5	19	31.667	41	68.333	60
2;6	231	54.098	196	45.902	427
	2241	70.304	947	29.696	3189

Figure 3. Evan's Single- Versus Multiple-Word Utterances. Key: MWU= Multiple-Word Utterances, SWU=Single-Word Utterances

Looking at the types of multiple-utterances, it is clear that two-word utterances preponderated throughout. At 2;0, of the 48 total utterances recorded, 38 were single-word utterances, 8 were two-word utterances, and only 2 were three-word utterances. For the period from 2;0 to 2;6, the first four-word utterance was noted at 2;1 along with the first six-word utterance in the taped data.¹ The next six-word utterance wasn't recorded until 2;6. At 2;6, the number of single-word utterances was 231 versus 196 multiple-word utterances. Of these multiple-word utterances, 123 were two-word, 47 were three-word, 22 were four-word, 2 were five-word, and 2 were six-word. Table IV below shows the total breakdown of multiple-word utterances.

¹ In the earlier data that was not analyzed in depth, the first three word utterance was noted at 1;6 and the first four word utterance was recorded at 1;10.

TABLE IV
WORD LENGTH OF MULTIPLE-WORD UTTERANCES

Age	Total mwu	2wu	%	3wu	%	
2;0	10	8	80	2	20	
2;1	85	76	89.411	7	8.235	
2;2	228	177	77.632	37	16.228	
2;3	244	184	75.41	45	18.443	
2;4	144	102	70.833	30	20.833	
2;5	41	24	58.537	14	34.146	
2;6	196	123	62.756	47	23.98	
Age	4wu	%	5wu	%	6wu	%
2;0						
2;1	1	1.177			1	1.177
2;2	11	4.824	3	1.316		
2;3	13	5.328	2	0.819		
2;4	6	4.167	6	4.167		
2;5	2	4.878	1	2.439		
2;6	22	11.224	2	1.020	2	1.020

LEXICAL ANALYSIS

I counted a total of 594 words in Evan's lexicon. I am sure that his vocabulary was larger, but there is no way of counting the number of items in the lexicon without observing and recording the child every speaking moment. Of these 594 words, 268 were English (45.451%), 250 were Japanese (42.087%), 61 were neutral (10.269%), and 15 were idiosyncratic (2.525%). Neutral items, especially names, were counted as either Japanese or English for the purposes of the syntax calculations below. This was done when a neutral item was found in a sentence that was composed of vocabulary items that were all from the other language. Of these neutral

items 37 of them were proper names (65.655% of the total neutral items).

These items can be seen in Table V below.

TABLE V
EVAN'S NEUTRAL VOCABULARY

<u>Names</u>	<u>Others</u>
Apa (Papa)	ah (interjection in both languages)
Aunt Edna	babul (bubble)
Ban (Evan)	barun (balloon)
Banchan (Evan)	bebi (baby)
Banji (Evan)	bo (boru)
Banju (Evan)	bubba (bubble)
Banz (Evan)	bye bye (loanword)
Banzi (Evan)	choc (chocolate)
Batman	faiya (fire)
Big Bird	flau (flower)
Cubby	fren (friend)
Daddy	juju (juice)
Dinorider	K (OK)
Eban (Evan)	key (loanword)
Edna	kitty
Egor	monkey (loanword)
Eman (Evan)	oh (interjection in both languages)
Evan	OK (loanword)
Evanchan (Evan)	ooh (idiosyncratic interjection)
Garfield	sau (sour/7 Up)
George	shau (shower)
Gummi	washi (watch/clock)
Heman	whoo (idiosyncratic interjection)

TABLE V
EVAN'S NEUTRAL VOCABULARY
(continued)

<u>Names</u>	<u>Others</u>
Joker	wow (interjection in both languages)
Karen	
Ken	
Kenchan	
KenKen	
Mama	
Mom	
Mona	
NokoNoko	
Papa	
Pop	
Robocop	
Seinto Seiya	
Seiya	

Onomatopoeia was dominated by expressions from Japanese. Of the 19 total onomatopoeic expressions, 10 were from Japanese (52.631%), 5 from English (26.316%), and 4 were idiosyncratic (21.053%). They are listed below in Table VI.

TABLE VI
ONOMATOPOEIA IN EVAN'S LEXICON

<u>Japanese</u>	<u>English</u>	<u>Idiosyncratic</u>
bisho bisho (wet)	boom (gun)	bam (gun)
bu (car horn)	boom boom (gun)	bam bam (gun)
gokin/kokin (nail cutter)	caw (crow)	chim (bell)
hiin (neigh)	meow (cat)	uin uin (siren)
jabu jabu (splish splash)	oink oink (pig)	
niao (meow)		

TABLE VI
ONOMATOPOEIA IN EVAN'S LEXICON
(continued)

<u>Japanese</u>	<u>English</u>	<u>Idiosyncratic</u>
pi (flatulation)		
pon pon (tummy)		
ton ton (drum)		
wan wan (dog)		

The baby talk expressions that Evan used were predominantly from Japanese. Of the 27 recorded, 20 were from Japanese (74.074%), 2 from English (7.407%), 4 were idiosyncratic (14.815%), and 1 was neutral (3.704%). These expressions can be seen in Table VII following.

TABLE VII
EVAN'S BABY TALK

<u>Japanese</u>	<u>Idiosyncratic</u>	<u>English</u>	<u>Neutral</u>
akko (dakko/hug)	hoshi (horsey)	horsey	juju (juice)
anyo (walk)	mouchu (mouse)	potty	
babai (dirty)	panchu (pants)		
bu (vehicle)	tichu (tissue)		
chanko (sit)			
chichai (small)			
chiri (buttocks)			
chu (kiss)			
dakko (hug)			
goron (lay)			
meme (bad/eyes/insect)			
nainai (put away)			
nene (sleep)			
penpen (spanking)			
pon pon (tummy)			
shi (shiko/urination)			

TABLE VII
EVAN'S BABY TALK
(continued)

Japanese	Idiosyncratic	English	Neutral
tete (te/hand)			
toto (bird)			
unchi (feces)			
unma (food/milk)			

English, on the other hand, was the source of most of Evan's interjections.¹ In total, 43 interjections were noted. 23 were from English (53.488%), 11 from Japanese (25.581%), 4 were idiosyncratic (9.302%), and 5 could be found in both languages and were counted as neutral (11.628%). These interjections are in Table VIII below.

TABLE VIII
EVAN'S INTERJECTIONS

English	Japanese	Idiosyncratic	Neutral
boo	are (surprise)	oh oh	ah
bye	hai (back channel)	ooh	bye bye
cowabunga	hora (look)	whoo	oh
hi	itai (ouch)	yaa	OK
hey	ita (hurt)		wow
huh	itei (ouch)		

¹ For the purposes of this study interjections are defined as non-syntactic parts of a sentence that do not fit into any of the standard categories of word class. Frequently they are pragmatic insertions into discourse. The category includes such items as feedback cues and back-channel behavior, yes, no, uh-huh, and boo(!).

TABLE VIII
EVAN'S INTERJECTIONS
(continued)

English	Japanese	Idiosyncratic	Neutral
no way	iya (no)		
oh my gosh	ne (attention getter/tag marker)		
oh no	ototo (oops)		
oops	umm (back channel)		
ow	unh (back channel)		
pooey			
piyu			
pyuii			
shush			
uh			
uh huh			
unh uh			
whoa			
whoops			
yeah			
yuck			
yummy			

There were very few lexical items that were completely idiosyncratic. They were buranket (blanket/buranketto),¹ chim (bell sound), gokin/kokin (nail cutting sound), hoshi (horsey), mouchu (mouse), panchu (pants), tichu (tissue), uin uin (siren), and washi (uochi/watch). Some of these items can be found in the tables above as there is some overlap between categories.

¹ This is a word that Evan made up that he pronounced a bit differently from blanket and *buraketto*. It may be the only blend to be noted in this study as it comes from the English blanket and possibly from the Japanese pronunciation of that word as *buranketto*. Buranketto has perhaps not yet been generally borrowed into Japanese and the most common word in that language for that woolen and rectangular piece of bedding is *mofu*. This was an important word for Evan, as he had a security blanket much like Linus' in the popular *Peanuts* cartoon series. Since this blanket was so important to Evan, either he or we as a family gave the term a special pronunciation.

The utterance 'chim,' for example, is both idiosyncratic and onomatopoeitic. 'Gokin/kokin' comes from a Japanese language context situation, but is also onomatopoeitic. Several of these terms might be called coined baby talk. These are hoshi (a word Evan and Ken made up), mouchu, panchu, tichu, and washi. These words all come from English, but Evan has given them Japanese pronunciation (and Japanese baby talk pronunciation at that!).

Surprisingly, to this author, not many immediate imitations were recorded. Of the 7 total I recorded, 5 were English (71.429%) and 2 (28.571%) were Japanese. The English imitations were shush, oh daddy, one two, trick or treat, and shush traitor. The Japanese ones were ganban (for *gambare* /give it your best shot) and kawachatta (for *kowarechatta* /broken).

Over the seven month period that Evan's speech was recorded, I found 17 sets of cross-language synonyms that occurred in the same monthly period or in the preceding or following monthly period in which they were noted. Undoubtedly there are more and the ones noted are to be found in Table IX below. In contrast to Leopold's study, Evan employed very few cross-language synonyms within the same monthly or two month period. There is a difference, however, between Hildegard's data and Evan's data. Evan's data are fixed within the family while Hildegard's data includes exchanges between a wider variety of interlocutors. The number of cross-language synonyms is likely to be few in number in naturally occurring conversations such as those in Evan's data. This is because in bilingual conversation you choose which code to use and so use one or the other lexical item to the exclusion of its synonym. Synonyms are only likely to appear for such purposes as for clarity, for humor, for translating, for play,

for emphasis, to teach, or to convey a nuance with one language that it is difficult to convey in the other. These are about the only times that cross-language synonyms have a chance to be used close together in the same data sample. Therefore I suggest that the number of synonyms is small because they are so often not necessary or are redundant.

TABLE IX
EVAN'S CROSS-LANGUAGE SYNONYMS

<u>Japanese</u>	<u>English</u>
achichi 2;2	hot 2;1, 2, 3, 6
atsui 2;3	"
awa 2;2	bubble/foam 2;2
basu 2;2	bus 2;2, 3
bu 2;1, 2, 3, 4, 6	car 2;2, 3, 4, 6
hoshii 2;2	want 2;2, 6
iya 2;1, 2, 4	no 2;0, 1, 2, 3, 4, 5, 6
koko 2;2, 3, 4, 6	here 2;0, 1, 2, 3, 6
kore 2;0, 1, 2, 3, 4, 6	this 2;0, 1, 2, 4
miru 2;0, 2, 3, 4	look 2;1, 3, 4, 6/see 2;3
neko 2;0, 2	cat 2;1
owari 2;5	over 2;5
roboto 2;4	robot 2;4, 6
shanpu 2;2	shampoo 2;2, 3
toto 2;0, 1, 2	bird 2;1, 2
unma 2;0, 1, 2, 3, 4	food/milk 2;3
wani 2;3	crocodile 2;3

SYNTACTIC ANALYSIS

We can now turn from the lexical analysis to the syntactic analysis. Please refer to Table X and Figures 4 and 5 below. Quite clearly, Evan did very little mixing. Of the total utterances recorded, English with no mix

accounted for 58.505% of the utterances, Japanese with no mix for 21.238%, neutral for 17.472%, English with mix for 0.530%, and Japanese with mix for 2.255%. This trend did not change in any of the monthly periods except 2;0 and 2;5 with English with no mix being the dominant language throughout, Japanese with no mix secondary, neutral next in number of occurrences, and very few mixed utterances in either English or Japanese. At 2;0, there were no mixed utterances while English with no mix, Japanese with no mix, and neutral utterances were balanced at 33.333% each. At 2;5, English with no mix accounted for 34.146% of the utterances as did the neutral category. Japanese with no mix followed with 26.830% while 4.878% of the utterances were Japanese with a mix.

Throughout the seven month period reported upon, English utterances with no mix preponderated at 58.505%. Three examples of these utterances include 'I see turtle,' 'wan dis' (want this), and 'Heman over.'

Japanese with no mix accounted for 21.238% of the total mixed utterances. Examples of this type of utterance include '*boshi nomou*' (hat drink let's=let's drink the hat), '*seinto seiya mo nechatta*' (Saint Seiya already gone to sleep=Saint Seiya has already gone to sleep), and '*iku zo*' (go[emphatic]=I'm outta here!).

The next largest category were utterances with a neutral syntax. Often these were two-word utterances in which the English and Japanese syntactic orders were the same. This type of utterance accounted for 17.472% of the total number of multiple-utterances. Examples include '*shiko* please' (urinate please), '*toto* gone' (birdie gone), '*toto* please' (birdie please), 'airplane engine *kowai*' (airplane engine scary), and 'OK Banz *utsu* Mama' (OK Evan shoot Mama).

When we look at the categories of English with mix and Japanese with mix, we find that very few mixed utterances indeed were noted. English with mix accounted for 0.530% while Japanese with mix accounted for 2.255% of the total number of mixed utterances.

Some examples of English utterances with a mix are 'I go upstairs *juniji*' (I go upstairs 12 o'clock), 'it's *wani*' (it's crocodile), and 'open *bu* please' (open vehicle please). These sentences all show English word order with the insertion of a single Japanese lexical item. In adult Japanese, they would be "*Watashi wa juniji ni ue ni ikimasu*" (I as for I 12 o'clock at up go), "*Sore wa wani desu*" (it as for it crocodile is), and "*Kuruma o akete kuddasai*" (car [particle] open please) respectively.

Japanese utterances with a mix included 'bus *aru*' (bus have={I} have bus), '*kore uin uin* fire *torakku*' (this siren fire truck=this is a fire truck with a siren), 'candy *chodai*' (candy want={I} want candy), 'Mama juice *nomu*' (Mama juice drink=Mama drink juice), and 'turtle *chan*¹ *chodai*' (turtle Master want=I want the Master Teenage Mutant Ninja Turtle). All of these utterances show Japanese syntax with the insertion of lexical items from English.

¹ Note that -*chan* is also a diminutive and honorific term of endearment that is in a lot of cases feminine.

TABLE X
LANGUAGE MIXING 2;0-2;6

Age	Eng no mix n/%	Eng w/mix	Jap no mix	Jap w/mix	Neutral
2;0	48/33.333	X	33.333	X	33.333
2;1	392/56.471	3.529	21.176	2.353	16.471
2;2	1091/48.707	X	40.517	1.724	9.052
2;3	686/60.656	0.820	24.180	2.049	12.295
2;4	490/43.750	X	37.500	5.556	13.194
2;5	60/34.146	X	26.830	4.878	34.146
2;6	426/54.315	2.538	20.812	4.061	18.274

Figure 4. Overall Language Mixing (Line Graph).
Key: ENM=English with no mix, EWM=English with mix,
JNM=Japanese with no mix, JWM=Japanese with mix,
and N=Neutral (Figures 5-12 below use the same key.)

Figure 5. Overall Language Mixing (Bar Graph) by Month 2;0-2;6.

Figure 6. Language Mixing 2;0

Figure 7. Language Mixing 2;1

Figure 8. Language Mixing 2;2

Figure 9. Language Mixing 2;3

Figure 10. Language Mixing 2;4

Figure 11. Language Mixing 2;5

Figure 12. Language Mixing 2;6

DISCUSSION

In this project, I have tried to assume the partial mantle of a Leopold in the sense that I have tried to adequately describe what I could observe of the unified language period of one simultaneous bilingual child. What was found, however, was that little evidence for a unified speech period existed for Evan from the age of two to two and a half. This was most evident in the syntactic analysis, which will be discussed in more depth below.

MEAN LENGTH OF UTTERANCES

There is no readily available explanation as to why the length of Evan's utterances was shorter than those reported upon in other studies (See Figures 1 and 2 and Table II). One possible reason might be the amount of trauma that the family had experienced due to illness, death, or taking care of elderly family members in the period just before the collecting of the data used in this research began.

SINGLE- AND MULTIPLE WORD UTTERANCES

Next we must turn to the ratio of single- to multiple-word utterances. Overall, despite the peaks and valleys, the number of single-word utterances is declining while the number of multiple ones is increasing. This is not unexpected, and a similar trend might also be found among monolingual language learners. Also as Evan's age has increased, so has the number of three-word utterances grown in proportion to single-word and two-word

utterances. There are too few four-, five-, and six-word utterances in the data to note any particular trends. It is clear then that as Evan is able to exploit a greater amount of language, he is capable of using longer utterances. He doesn't, however, cease to use one- and two-word utterances.

LEXICAL ANALYSIS

A type of neutral item that is interesting are those words that seem to be chosen for their usefulness in either language. A bilingual child can pick out a way to use things that are common to both languages, at least on the lexical level. Some examples from Evan's speech include the following. Both 'babul' and 'bubba' were used for bubble/ *baburu*. 'Bo' was used for ball/ *boru*. 'Choc' was used for chocolate/ *chokoretto*. 'Fren' was used for friend/ *furendo* while 'shau' was used for shower/ *shauwa*. Two of the more interesting of this type of utterance were 'sau,' a familiarly idiosyncratic term meaning the drink 7-Up from the English 'sour' and the Japanese pronunciation (*sauwa*) of that particular word and 'washi' to mean clock from the English 'watch' and the Japanese pronunciation *uochi*. This type of utterance has been considered neutral because the phonology of these terms could come from either English or Japanese. We can't really say which language they come from.

The child may be using an exploitation strategy that arises from using that which is common to both languages. In using such neutral terms, the child would be showing an awareness of differences in the two languages. I tend to this view. On the other hand, the child may be paying no attention whatsoever to differences in the two languages and therefore would be

muddling them. Another possibility is that there is a problem with the analysis and not with the child. What might be reflected here is simply a researcher's inability to adequately and correctly describe strategies that simultaneous bilingual children employ. An example of this would be the judgements I made in regard to coding the neutral utterances.

The first type of strategy shows us that a two year old bilingual child doesn't have to mix vocabularies, but rather can use neutrality for convenience when the opportunity to be neutral arises. Of these explanations, the first seems most attractive. Bearing this in mind, it is not surprising that a bilingual child like Evan has a large neutral vocabulary. The second type of strategy would be indicative of a unified speech period, while the third case would indicate that better research design is needed.

The neutral utterances are also interesting because some of them (babul, bubba, bo, choc, fren, shau, and washi) were originally English terms that have been borrowed into Japanese.¹ They stand in contrast to the other neutral items that are personal names (like Cubby, Mama, and Ken) and words borrowed into Japanese from English that Evan did not change the pronunciation of (like key, kitty, and monkey). We have, so far, looked at a number of areas where English and Japanese are quite different typologically as in the case of word order and honorific usage. With these neutral items, though, we find similarities, and it is these similarities that can lead us to ask whether two languages that have borrowed a lot from

¹ A case might also be made for saying that *sour* has been borrowed into Japanese as *sauwa*.

each other give bilingual children more opportunities to exploit neutral strategies. This seems to be the case for Evan.

Most of Evan's onomatopoetic words seem to come from the Japanese. This may be because Japanese seems to use a larger number of onomatopoetic terms than English does. A much greater number of Japanese baby talk expressions were used by Evan than English ones. This may be due to the close personal contact that existed between Evan and his mother who spoke Japanese to Evan more than she did English. The idiosyncratic baby talk terms included one set where Evan gave Japanese phonology to three English words which have all been borrowed into Japanese from English. The three words in this set were mouchu (mouse/ *mausu*), panchu (pants/ *pants*), and tichu (tissue/ *teishu*). Mouse has been borrowed by the Japanese because of Mickey Mouse and Macintosh computers.¹ *Pantsu* means underpants to the Japanese. *Teishu* retains the English meaning.

Baby talk is used in both languages and in both cases often takes the forms of reduplication and phonological simplification and a high usage rate of terms of endearment and nicknaming. Playing with words phonologically also occurs in both languages.

An example of reduplication would be the term *tete* to mean 'hand' or 'give me your hand' where the adult form for hand in Japanese is simply *te*. In English, we reduplicate, for example, 'poo' into 'poo poo.' An example of phonological simplification in Japanese would be the use of *shi* instead of

¹ By this I mean that *mausu* is used when speaking of Mickey Mouse or when speaking of the computer peripheral by Japanese speakers. When speaking of the ubiquitous rodent, a Japanese term *nezumi* is employed.

shiko (urination). In English and Japanese, you can find phonological simplification and reduplication with the use of *juju* for 'juice.'

Those of us who have had very young children in our environments are all familiar with some of the English baby talk terms of endearment such as 'snookums' and 'wil (little) baby.'¹ In Japanese, an honorific suffix often is used to show affection as is the case with the suffix *-chan* being used for both female and male children as in Ebanchan, Banchan, and Kenchan (in contrast to its usual feminine usage).

In Evan's case, at least ten names and nicknames for himself were uttered. The earliest of these, in the present study, occurred at 2;1, and may be evidence of the ability to use Japanese honorific suffixes and the growth of self-awareness on Evan's part. This is relevant in regards to gaining communicative competence in Japanese and because some researchers like Kagan (1981) and Vihman (1984) have argued for the development of self-awareness in the latter part of the second year.

On the other hand, for some reason, Evan's interjections have mostly come from English. I really don't have a ready explanation for this other than to assume that since English was the dominant language in Evan's environment he had access to more English interjections than Japanese ones.

In addition, a timing issue may be involved here. Because of the intimate personal contact that Evan had with his mother from an early age, I postulate that this caused him to acquire more baby talk from his mother's dominant language, which has always been Japanese. As Evan became older, he had more contact with his brother, father, and others in the household

¹ "Wil" here also shows phonological simplification.

and community. Ken's dominant language became English quite soon after his arrival in the U.S., my dominant language has always been English, and the dominant household and community-at-large language is also English. Perhaps Ken and his peers used more interjections at school than in the other language communities and Ken passed these on to Evan. It has been suggested that children acquire more language from their peers and siblings than from any other source (Stewart, 1964/See below).

Some of these interjections are cross-language synonyms, yet I did not include them in that category as they occurred in different monthly periods and because there is some disagreement as to whether interjections are really words or whether they should count in the MLU calculations. Brown, for example, allows 'yeah,' but does not allow 'uh huh.' Some of these cross-language interjection synonyms include *ow/ itai* and *whoops/ ototo*.

As mentioned previously, there were very few terms found that were completely idiosyncratic. This says something about the power of languages to ingrain themselves in children's minds or, rather, about the innate human capacity to acquire one or more languages.

Grosjean (1982) has claimed that blends and compounds used by simultaneous bilingual children are evidence of what is to be expected in Volterra and Taeschner's first stage in that they reflect a single language system. By blends he means what a two year old English-French bilingual child Juliette did when she combined the English word 'pickle' with the French word 'cornichon' to produce 'pinichon.' Juliette also gave him an example of a compound when she would point to the moon and say 'moon-lune.'

No blends are to be found in the period from 2;0 to 2;6.¹ Three possible compounds to be found in the data, such as moon/lune, were Evan's use of *bubus*, *bucar*, and *bu* motorcycle. *Bu* has meant any kind of vehicle for Evan and has been an often used and important word for him. Evan once uttered 'boot-shoes,' but this appears not to be a true blend in Grosjean's sense because the words come from the same language. That, however, might not be important here as Japanese has borrowed 'shoes' as *shuzu* and 'boot' as *butsu*. The above are all that I was able to identify so far in the data. The analysis, though, is continuing.

Fantini (1985) has suggested that immediate imitations require no knowledge of underlying syntactic rules, so I thought it proper to see if Evan would do a lot of immediate imitation. If so, this could perhaps be evidence of a syntactically-confused unified speech period. There turned out to be a paucity of immediate imitations in the data. Admittedly, a large part of language acquisition involves imitation on some level. A large part of language acquisition must be connected to imitation, but that is not necessarily the same thing as immediate repetition.

In this study, though, there arose only seven occasions when Evan was clearly immediately imitating. One was an imitation of his brother Ken and a friend saying 'shush' and 'shush traitor' to each other. Another was imitating a song on TV, with Fleetwood Mac crooning "Oh, daddy..." Another time he imitated his mother counting with a 'one, two.' At Halloween time, when

¹ An exception to this might be the 'buranket' that I mentioned earlier. It must be remembered, though, that this was an idiosyncratic term.

trick-or-treating, there was an imitation of his brother calling out 'trick or treat!' This term soon became internalized on that All Hallows Eve.

The two Japanese immediate imitations were attempts to say the words that his mother was overtly trying to teach him. They were 'ganban' for *ganbare* (give it your best shot) and 'kawachatta' for *kowarechatta* meaning broken. Certainly Evan did more immediate imitating in the period reported upon here, but these are the only examples to be found in the data.

I reiterate these imitations to show the contexts in which they occurred. The imitations of his brother and friend at play may have indicated Evan's desire to play with his peers. At least in the case of trick-or-treating, I think that it is accurate to say that Evan's immediate communicative purpose was to receive candy and this goal could be accomplished by doing what the other children around him were doing. In the case of imitating his mother, this would not be at odds with Grice's (1975) notion of obeying a cooperative principle in conversation. By this I mean that Evan was attempting to comply with his mother's desire that he repeat the words she was eliciting. The imitation of the Fleetwood Mac song may have just been a way for Evan to enjoy himself musically. It seems here that Evan draws from whatever linguistic sources he has available, whether from two internalized lexicons or from the linguistic environment.

Although a number of conclusions can be drawn, what is perhaps important to note is that although we can not say with any certainty that Evan exploited words because of their neutrality, the possibility of his doing so existed. In addition, onomatopoeic terms seem to have come primarily from Japanese; possibly because Japanese uses onomatopoeia more than English does. Baby talk from both languages was used, though Japanese

preponderated. This was quite possibly due to the fact that Evan got more baby talk input from his mother speaking to him in Japanese. English interjections preponderated over Japanese ones and the reason for this may have been that English was the dominant language in Evan's environment from 2;0 to 2;6. Completely idiosyncratic terms were few in number and not many blends or compounds were to be found, thus it is fair to conclude that neither of the two latter categories were especially important in Evan's lexicon, though previous studies have suggested that this would be the case.

SYNTACTIC ANALYSIS

We can now turn to the area of syntactic analysis, and this is where we may note something of significance vis-a-vis the so-called unified speech period. Contrary to some earlier studies mentioned above, in Evan's case we can find virtually no evidence of repeated mixing as in every monthly period observed there were very few, if any, utterances recorded that could fall into the code-mixing categories of English with mix and Japanese with mix while a fair number of neutral utterances (i.e., those utterances which we could not say belonged to either English or Japanese syntax) were uttered. Evan seems to have already clearly separated the two languages into separate systems at the age of two since, as will be discussed below, mixed utterances are not clear evidence of a unified language.

Before turning to this issue, it is important to ask two questions. One query asks why the neutral utterances exist at all. The answers to this question, as regards syntax, are very similar to the answers to the same question when applied to lexicon. The bilingual child might be using a

neutral exploitation strategy (suggesting an awareness of two languages), may be paying no attention to language differentiation (suggesting unawareness of two languages), or it may be the case that this study is not comprehensive enough to adequately describe the language of the period in question. I suspect the first answer is at work, though one can not say so with any great certainty.

The next important question to ask is what will happen to these neutral utterances as Evan's mastery of the two syntaxes grows. It can be expected that the number of this type of utterance will fall as Evan speaks longer and longer sentences in both English and Japanese. Syntactic restraints will probably cause this to a large extent.

As Evan evidenced so code-mixing, the data in this research project stand in direct opposition to the claim that bilingual infants go through an initial mixed language period until about three years of age. If Evan had been going through a unified speech period, we would expect to find a large number of English and Japanese utterances with code-mixes in them. In fact, very few code-mixed utterances were noted in either English or Japanese; yet a considerable number of what have to be termed neutral utterances did exist. Neutral utterances may themselves be caused by a bilingual child's ability and/or desire to exploit them in communicative strategies when the options arise. This, of course, is related to the ability of the human being to switch codes, as well as to acquire language and also to circumstances related to the sociolinguistic environment that people find themselves in.

In a unified speech period as described in the literature, we also could expect to find a large number of cross-language synonyms. Here again,

a large number were not noted; but again we have to remember that a considerable number of neutral lexical items did exist. Perhaps cross-language synonyms were not needed very much because of the availability of neutral items. This availability of neutral items in Evan's case might have been greater because Japanese has borrowed so heavily from English.¹

Meisel (1989) would argue that language learners would not be able to mix if the learner did not know there were two languages and that there is no way to tell the difference between code-switching and a unified speech period when the same data are used as evidence of both. He calls the claim that bilingual children use only one lexicon initially as a controversial one and the claim that there is a phase characterized by a single syntactic system underlying performance in both languages as an even more controversial one.

Based upon the data from Evan, I have to agree with Meisel that children have the ability to distinguish separate codes from an early age. By two years of age, it was clear that he had made a distinct separation between some of the many codes of English and Japanese.

Meisel further noted that in the Volterra and Taeschner (1978) study that argues for a three-stage unified period, the second stage in which a single syntactic system is used, only one of the children (Lisa) used constructions that could lead to this conclusion. He further interprets the Redlinger and Park (1980) study as failing to offer good support in favor of an initial unified speech period when they admit that various linguistic and sociolinguistic factors influenced the degree of mixing. The one boy in their

¹ To a much lesser extent, English has also borrowed from Japanese.

study who used practically no mixed utterances (Marc) was also a child for whom the two languages were clearly separated. His family used the well-known "one person-one language" strategy (Ronjat, 1913), in which the mother spoke only French with the boy and the father only spoke German. This is different from a code-switching family like Evan's. The lack of code-switching in Marc's family or the imposition of any one language-one interlocutor dictum may not be important factors in a bilingual child's (or most children's, for that matter) ability to acquire and to use one or more languages, registers, dialects, et cetera.

Meisel's research leads him to believe the kind of empirical evidence that is necessary to demonstrate instances of syntactic mixing or differentiation between two syntactic systems needs to come from languages in which the grammar or aspects of the grammar of the two adult target systems differ. Rather than looking for evidence in support of a single system, Meisel suggests that we look for evidence in favor of the notion that bilinguals do indeed differentiate two grammatical systems from an early age and that we should, in fact, ask a more basic question as to when in language development we may assume that a child is able to use syntactic modes of language processing. For Meisel, it is only possible to speak of syntactic rules in a unified speech period if a child is able to refer to a syntactic mode of processing. This follows from a belief that both monolinguals and bilinguals begin with a language processing mode that follows general pragmatic principles rather than more specific grammatical ones. Most researchers who have embraced the single-system hypothesis assume that once a child has begun to use a syntactic mode of language

processing, that child will initially only develop one syntax by which both languages are processed. Meisel puts it this way:

If one can show that a bilingual child uses different grammatical means for expressing the same or similar semantic-pragmatic functions in both languages, this not only indicates that s/he is indeed differentiating the two grammatical systems, but also constitutes what I believe to be the clearest evidence that one can and, indeed, must attribute to the child---the ability to use the *grammatical mode*. (Meisel, 1989: 21)

Meisel later concludes that "bilingual children use different word order sequences in both languages as soon as they begin to produce multi-word utterances" (Meisel, 1989: 28) and this, therefore, provides strong evidence against a unified speech period. If children use two languages, then they must have them separated. This seems to have been the case with Evan.

It must be remembered that bilingual families and people have access to at least one more code than monolinguals do. Thus they have the ability to switch more codes. This may be done for clarity, for humor, for translating, for play, for emphasis, to teach, or to convey a nuance, et cetera with one language that it is difficult to convey in the other. Within a single code, such as English, people have the ability to switch registers and this also may be seen as an example of the human ability to acquire one or more languages either simultaneously or successively.

LANGUAGE CONTEXTS

Evan was born in Japan on May 26, 1987, and was separated from his mother for about the first two weeks of his life due to medical complications

that arose. After being discharged from the hospital, Evan resided with his mother, brother, and father for nine months in Japan. Most of his language input at this time was from Japanese as he was with his mother and her relatives most of the time, though there was some English input as the family code-switched or when English speakers were visiting the family.

At the age of ten months, the family moved to the United States and this caused a change in the language input. Evan now was living in an English speaking household in which most interlocutors spoke English. The mother continued to provide a lot of Japanese input as did the brother and father when they switched codes or when Japanese speaking friends visited. Other inputs, all in English, came from Evan's paternal grandmother, an aunt, a cousin, and housekeepers, nurses, or various tradespeople. From 0;10 through 2;6, Evan and his family went through various traumas due to the need to care for the elderly, prolonged illness, and death in the family. While living in the extended family situation, there was some pressure from the monolingual English speakers for the bilingual family to speak only English.

At 2;7, the family visited Japan and stayed with the maternal grandparents for a three week period. During this time, the language input was almost entirely Japanese from relatives and friends too numerous to list here. Surprisingly enough, during this period Evan tended to use English more than was previously noted. I suspect that the reason for this might have been a kind of showing off or perhaps an attempt to get the Japanese interlocutors to switch codes.

At 2;8, the nuclear family returned to the United States and moved to a different domicile where they freely switched codes again. Both of the

brothers are now learning their two languages simultaneously and in a non-traumatic way as did Grosjean's (1982) Ingrid (though the family does not employ the one person-one language strategy that Grosjean's did). The brothers were also able to do this while living in Japan.

This discussion of the family's language contexts is important as it tells us about our family's code-switches. This code-switching exposes Evan to the fact that the interlocutors in his environment can and frequently do switch codes. While we might be tempted to think that exposure to code-switching would lead to confusion on the part of the child in Evan's case there is evidence that he simply exploited the code-switching option as easily as he could. An example of this occurred after Evan was watching a children's television cartoon show that featured a character named Heman on the third floor of our house. After the end of the show, he went to the second floor where his brother and mother (code-switchers) were and said "Heman *owari*" meaning "Heman is over." He then went to the first floor and approached his aunt and her nurse (both monolingual English speakers) and said "Heman over." This was at 2;5.

MAINTENANCE OF LINGUISTIC DIVERSITY

Linguistic environments must play an important role in attaining a bilingual condition. Children of bicultural marriages are the children most likely to be exposed to different languages and cultural environments; though not all children of such marriages actually receive such exposure (Yamamoto, 1987). In cases where a linguistic minority group is large enough, it is quite likely that a stable and supportive community can be

established that allows frequent interactions in which linguistic and cultural heritages can be maintained and transmitted. The community might build national schools (e.g., the Canadian Academy in Kobe, Japan) or establish Saturday schools (e.g., the Portland Japanese School in Portland, Oregon) for its children and/or organize social activities to foster transmissions of the above heritages. On the other hand, this degree of exposure may be difficult to attain indeed if the minority group population is very small or scattered geographically within the host country. In such cases individual endeavor is very important to those parents wishing to transmit the minority heritage (Yamamoto, 1987).

In such environments where linguistic and cultural support is difficult to attain, a goodly number of foreign parents are frustrated when they find their children speaking exclusively the language of the host country---even in cases where the parents themselves make considerable efforts towards exposing their children to other languages. This problem often rears its head around the time that children start school life and peer pressure becomes of, perhaps, prime concern to them, i.e., the bilingual children. At this point the tendency to speak the language of majority society becomes very conspicuous. Some cases have been reported of children in mixed marriages demanding that minority-language parents not address them in the minority language in front of their friends (Saunders, 1982). This has happened on only a few occasions in our family. Perhaps a reason for this not happening very often is that we are a code-switching family.

On the other hand, some families achieve success in raising children to be bilingual/bicultural. We need to find out what makes the differences between the two types of families if we wish to promote this dynamic

condition of bilingualism/biculturalism. One way we can begin further investigation is to look at the linguistic environments of bicultural families and then to perform discourse analysis on those environments as has been done to a certain extent in this project.

Surveys performed upon bicultural families separately by Saunders (1982) and Yamamoto (1985) indicated that in cases where children successfully became bilingual, there was some influence by: 1) the language used by the native-(speaking) parents in addressing their children; 2) the linguistic interaction pattern between siblings; and 3) the language of instruction at school. Factors which seemed to have the least significance were: 1) the language used by the native Japanese (-speaking) parents in addressing their children; 2) the linguistic interaction pattern between the English-speaking parent and the Japanese (-speaking) parent; 3) the parents' degree of bilingual competence; and 4) the amount of experience living abroad (Yamamoto, 1987).

In eleven successful cases of bilingualism that Yamamoto (1987) identified, the English-speaking parent always addressed the child in English. For her, this seems to be the very first and most basic condition for raising bilingual children successfully, i.e., to address the child solely in their native languages. Skutnabb-Kangas made the same observation (Skutnabb-Kangas, 1981). This was predicted by Kielhofer and Jonekeit (1983: 16 & in Dopke, 1986: 495). We can't, however, accept that condition of only addressing one's child in one's native language as a necessary or sufficient condition for creating or fostering a bilingual environment---especially when based upon a small sampling of subjects. Siblings and schools enter the picture (Saunders, 1982; Skutnabb-Kangas, 1981; & Yamamoto, 1987). Studies

performed upon Black English communities by Stewart (1964) in Washington, D.C. suggested that "...children learn more language behavior from members of their own peer group than from their parents" (cited in Dale, 1976: 281). Interacting in a mutually-shared linguistic domain, siblings may have an equal importance, more or less, as peer group members have on children's language.

Siblings are perhaps less intentional in their behavior than parents are and their concerns are sometimes apt to be more communicative than anything else when interacting with each other. They aren't trying to teach a language; they are communicating. This may be a good thing. The minority-language interaction between siblings may serve as a creator or spur of linguistic and cultural competence while the minority-language parent acts as an informant. School language and school activities must also play important roles on the scale of dynamic bilingualism.

On the surface, at least, it seems that parents of different linguistic backgrounds should be able to raise bilingual children naturally in some easy manner. At least the process shouldn't be painful, as it seems to be in some families. In reality something else seems to be at work. I would like to quote Yamamoto here:

In order to raise bilingual children successfully, it must be remembered that bilingualism is a dynamic condition, not a static attribute. It is important to keep supplying as much bilingual stimulation to the children as possible. If society cannot offer a bilingual environment, this requirement is placed onto the parents' shoulders. However, it is not possible for the parents to provide every single possible linguistic condition. In

that case what should and can be done is to maximize the opportunities to supply the most influential inputs.
(Yamamoto, 1987: 20-23)

Code-switching families will foster code-switching in their children. This is a different conclusion than Yamamoto has reached in earlier discussion. It is perhaps the case that a code-switching bilingual family will perpetuate some code-mixed utterances in their children; yet I doubt that this will remain the case for very long. Rather, I feel, this type of family will perpetuate a condition in which their children will learn two separate codes and code-switching strategies at an early age.

CONCLUSIONS, RECOMMENDATIONS, AND SUMMARY

Based upon the data in this project, we can say that in Evan's case very little language mixing was done and there exists virtually no evidence for support of an initial unified language period. Rather, it looks as if Evan separated English and Japanese into two separate syntactic systems at a quite early age. In addition to this competence, Evan also has various code-switching strategies at his disposal and two separate lexicons for English and Japanese. There also seems to be evidence of a neutral lexicon and possible employment of neutrality strategies syntactically, though the neutral lexicon is probably becoming smaller and the neutral syntax strategies will probably decrease in number as the child learns the more complex grammatical rules in each language. The syntactic differences in the two languages may, in fact, cause these strategies to disappear in time as syntactic knowledge on the part of the child in both languages becomes more complex. Neutral strategies may be employed because they are more versatile than utterances from either language.

This study did not address the psycholinguistic or neurolinguistic factors involved in the physiological storage of these lexicons, strategies, and syntaxes. This then, obviously, is an area that calls for further research.

Other areas for research suggest themselves. One such study might examine the role of playfulness or mimetics in Japanese and how they are connected to onomatopoeia in that language. In Evan's case, it might be asked to what extent does he play with language and to what extent does he

employ onomatopoeic expressions from Japanese. Further discourse analysis could be performed to see what makes a child like Evan switch codes in terms of to whom and for what purposes. When, also, does such a child switch and in what language contexts? What strategies do they employ with monolinguals or other code-switchers?

More ethnographic studies occurring in naturalistic settings, such as this one, are also called for as there are not, as yet, a lot of studies that have been performed and reported in the literature. Hopefully, this study of Evan's language development will continue in future months; perhaps such a study will give us even more data to be used in investigating what really is going on in the mind and the language development of young simultaneous bilingual children.

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APPENDIX A

SINGLE-WORD UTTERANCES

Key to Appendix A:

LU=Length of Utterances

X=Number of Occurences

Lang=Language

Date	Source	Interrance	Translation	Age	LI	X Lang	Word Types	Parts of Speech
4/26/89	T 1	alone		2.0	1	f		adj
		ashi	leg	2.0	1	J C		n
		babel	dirty	2.0	1	J C		vbladj
		bebi	baby	2.0	1	N C		n
		boo		2.0	1	E F		ono
		Cubby		2.0	1	N C		n
		here		2.0	1	E F		pro
		key		2.0	1	E F		n
		meme	eye?/Dad?/insect?	2.0	1	2 N C		adj? n?
		mom		2.0	1	E C		n
		net n	cat	2.0	1	J C		n
		oh		2.0	1	E F		Inter
		Ok	tummy	2.0	1	5 N F		Inter
		pon pon		2.0	1	J C		n
		poity		2.0	1	E C		n
		shi	urination	2.0	1	J C		n
		this		2.0	1	E F		pro
		won wan	bow w/w/dug	2.0	1	J F		ono
5/1/89	T 1	monkey		2.0	1	N C		n
5/12/89	T 1	grandpaj		2.0	1	E F		Inter
		jabu jabu	splish splash	2.0	1	J F		ono
		key		2.0	1	N C		n
		mine		2.0	1	E F		pro
		miru	In sea	2.0	1	J C		v
		net	don't have/none	2.0	1	J C		Vife
		reel	what	2.0	1	J F		intrug
		no		2.0	1	E F		Inter
		toto	birdie	2.0	1	J C		n
		unna	food/milk	2.0	1	E C		n
6/10/89	RFWD	beer		2.1	1	E C		n
		bird		2.1	1	J C		n
		bu	vehicle	2.1	1	3 J C		n
		cow	arrow	2.1	1	J F		ono
		dolvo	lug	2.1	1	J F		v
		doing		2.1	1	E C		v
		doing?		2.1	1	E C		v
		flou	flower	2.1	1	4 N C		n
		goue		2.1	1	2 E C		v
		here		2.1	1	E F		pro
		hi		2.1	1	11 F F		inter
		ken		2.1	1	4 N C		n
		key	come here	2.1	1	N C		n
		klite		2.1	1	J C		v
		Mama		2.1	1	N C		n
		maow	don't have/hume	2.1	1	E C		ung
		net	sleep	2.1	1	J C		Vife
		nerie		2.1	1	J C		n
		no		2.1	1	E F		Inter
		nuch		2.1	1	E F		Inter
		Palu		2.1	1	5 N C		n
		shin	urination	2.1	1	J C		n
		this		2.1	1	5 F F		pro

Date	Source	Utterance	Translation	Age	LU	X	Lang	Word Types	Parts of Speech
6/10/89	GFWD	toto	birdie	2.1	1	5	J C		n
		toy		2.1	1		E C		n
6/11/89	T 2	washt	clock	2.1	1	3	N C		n
		airplane		2.1	1	3	E C		n
		aru	have/there is	2.1	1		J C		v
		bu	vehicle	2.1	1	2	J C		n
		hai	I hear you/yes	2.1	1	2	J F		bet rhen
		ken		2.1	1		N C		n
		flame		2.1	1	3	E F		inter
		oh		2.1	1		J C		v
		pozu	poze	2.1	1		E F		pro
		there		2.1	1	4	E C		n
6/14/89	GFWD	flame's	Even	2.1	2	2	N C		n
6/16/89	T 2	Ranz	Even	2.1	1	2	N C		n
		chu	kiss	2.1	1	2	J C		n
		laddy		2.1	1	2	E C		n
		dis		2.1	1		E F		pro
		Edna		2.1	1		N C		n
		hot		2.1	1	2	E C		adj
		ken		2.1	1	4	N C		n
		ken	this	2.1	1	3	J F		pro
		no		2.1	1	5	E F		inter
		oh		2.1	1		E F		inter
		sebin up	7-Up	2.1	1	3	F C		n
		this		2.1	1		E F		pro
		why		2.1	1		E F		inter
		yes		2.1	1	4	E F		inter
6/19/89	T 2	ake	hug	2.1	1		J C		v
		atte	had/fulnd	2.1	2		J C		v
		Ranz	Even	2.1	1	3	N C		n
		busho bishin		2.1	1		J C		adj
		hot	wet	2.1	1	2	F C		n
		bu	vehicle	2.1	1	8	J C		n
		cake		2.1	1		E C		n
		cheese		2.1	1	6	E C		n
		coffee		2.1	1	4	E C		n
		doko		2.1	1	2	J C		n
		hai	hug	2.1	1		J F		bet rhen
		hot	I hear you/yes	2.1	1	3	E C		adj
		hot?		2.1	1	2	F F		inter
		iku	to mi	2.1	1		J C		v
		lga	car/hit hurts	2.1	1	3	J C		vbladj
		julie	in	2.1	1	3	J F		inter
		julu		2.1	1	2	E C		n
		k	julie	2.1	1		N F		inter
		kac	ok	2.1	1		F C		n
		ken	face	2.1	1	5	N C		n
		key		2.1	1		N C		n
		kitty		2.1	1	4	N F		n
		flame		2.1	1	2	N C		n

Date	Source	Interference	Translation	Age	LU	K	Lang	Word Types	Parts of Speech
6/19/89	T 2	meow		2.1	2		f	c	n
		mouse		2.1	1		f	c	n
		no		2.1	1		f	c	n
		nope		2.1	1	4	f	c	inter
		out		2.1	1		f	c	inter
		ow		2.1	1	5	f	c	adv
		panchu	ouch	2.1	1		f	c	inter
		Papa	papa's	2.1	1	5	j	c	n
		Papa		2.1	1	3	n	c	n
		fish		2.1	1	5	f	c	v
		Sau	7-Up	2.1	1	8	n	c	n
		shika	urination	2.1	1	4	j	c	n
		shoes		2.1	1	2	f	c	n
		socks		2.1	1		f	c	n
		ladary	turtle	2.1	1	2	j	c	n
		that		2.1	1		f	c	pro
		touchdown		2.1	1	3	e	c	inter
		uh oh		2.1	1	2	e	f	n
		unchi	poo	2.1	1	3	j	c	n
		unmo	food/milk	2.1	1	3	j	c	n
		vain	water	2.1	1	21	f	c	n
6/20/89	T 2	map	in front of	2.1	1		f	c	V3 fe
		unmo	food/milk	2.1	1	10	j	c	n
	T 4	boya	fuel	2.1	1		j	c	n
		bye		2.1	1		f	c	inter
		cat		2.1	1		f	c	n
		goron	lay down	2.1	1		f	c	n
		hi		2.1	1		f	c	n
		ital	ouch/it hurts	2.1	1		j	c	inter
		julu	juice	2.1	1		j	c	vbl ydl
		valdu	water	2.1	1		j	c	n
		val	don't have/none	2.1	1		j	c	n
		hena	stamp	2.1	1		j	c	V1 fe
		no		2.1	1	2	f	c	n
		shika	urination	2.1	1		j	c	inter
		vain	water	2.1	1		f	c	n
6/22/89	GFWD	no		2.1	1		f	c	n
6/24/89	T 4	are (J)	e.c. of surprise	2.1	1		f	c	inter
		aru	have/there is	2.1	1	2	j	c	v
		atta	had/food	2.1	2		j	c	v
		bu	vehicle	2.1	1		j	c	n
		coffee		2.1	1		f	c	n
		lebu	to write/draw	2.1	1		f	c	v
		pilly		2.1	1		n	c	n
		Puru kuru	round and round	2.1	1		j	c	adj
		lool		2.1	1		f	c	v
		tinajella	it didn't	2.1	3		f	c	v
		ouch		2.1	1		f	c	inter
		quick		2.1	1		f	c	inter
6/26/89	T 5	Papa		2.2	1	2	n	c	n
6/29/89	T 5	am-	rain	2.2	1	7	f	c	n
		aru	have/there is	2.2	1		j	c	v

Date	Source	Utterance	Translation	Age	LU	N	Lang	Word Types	Parts of Speech
6/29/89	15	awa	foam	2;2	1	1	J	C	n
		babai	dirty	2;2	1	1	J	C	vbladj
		baburu	bubble	2;2	1	1	J	C	n
		baka	fool	2;2	1	1	J	C	n
		bam	bang	2;2	1	12	1	F	ono
		Banjil	Evam	2;2	1	3	N	C	n
		Banju	Evam	2;2	1	3	N	C	n
		Banz	Evam	2;2	1	2	N	C	n
		bebi	belly	2;2	1	3	F	C	n
		blanket		2;2	1	3	F	C	n
		bu	vehicle	2;2	1	3	J	C	n
		bubba	bubble	2;2	1	2	N	C	n
		bus		2;2	1	7	F	C	n
		bye		2;2	1	3	F	1	n
		candles		2;2	2	2	E	C	inter
		chudai	give me	2;2	1	2	J	C	n
		chu	figs	2;2	1	2	J	C	vbladj
		coffee		2;2	1	9	E	C	n/ono
		dekite	I could do it	2;2	1	1	J	C	n
		dis		2;2	1	1	J	C	v
		folya	fire	2;2	1	E	F	1	pro
		funny		2;2	1	N	C	1	n
		gashan	fire	2;2	1	E	C	1	adj
		hai	give best shot	2;2	1	2	J	C	v
		heshl	I hear you/yes	2;2	1	3	J	F	back chom
		heshli		2;2	1	2	1	C	n
		heshli	horsey	2;2	1	2	1	C	vbladj
		li	want	2;2	1	5	J	C	adj
		good		2;2	1	1	J	C	vbladj
		hai	ouch/it hurts	2;2	1	25	J	C	v
		itai	it hurt	2;2	2	2	J	C	inter
		itai		2;2	1	2	J	F	n
		lup	no	2;2	1	2	N	C	n
		juju	juice	2;2	1	2	J	C	n
		jukyu	nineteen	2;2	1	2	J	C	adj
		kachi	cheap/sale	2;2	1	18	H	C	n
		ken		2;2	1	1	H	C	pro
		ken ken	this	2;2	1	2	J	F	n
		kore		2;2	1	6	N	C	ono
		flaming		2;2	1	2	F	F	pro
		menow		2;2	1	2	F	F	inter
		mine		2;2	1	2	F	F	v
		mo	exp of anger	2;2	1	2	J	F	tag
		mon	exp of anger	2;2	1	2	J	F	v
		ne	tag mouth or	2;2	1	1	F	1	inter
		nene	stomp	2;2	1	7	1	C	n
		no		2;2	1	10	F	F	inter
		nori	got attitude	2;2	2	2	J	C	v
		notta	haha	2;2	2	2	J	C	v
		oh		2;2	1	2	F	F	inter
		oh oh	someone got sad	2;2	1	1	F	1	inter
		okony?	any q	2;2	1	1	J	C	v
		otoin	ouch	2;2	1	8	E	F	inter
		ouch		2;2	1	1	F	1	inter
		ow		2;2	1	2	J	F	inter

Date	Source	Utterance	Translation	Age	LU	K	Lang	Word Types	Parts of Speech
7/10/89	T6			2.2	1	9	f		int. f
	car			2.2	1	2.2	f		n
	chanko	sit		2.2	1		f		v
	chim	bike bell sound		2.2	1		f		and
	cookie			2.2	1		f		n
	deki destinal	can't do it		2.2	2		f		v
	destinal	can't		2.2	2	6	f		v
	destinal?	can't?		2.2	2	2	f		v
	dekita	I could do it		2.2	2	16	f		v
	dekital	I want to do it		2.2	2		f		v2fe
	deru	to pull		2.2	1		f		v
	dls			2.2	1	5	f		pro
	Eban	Evan		2.2	1		f		n
	Eman	Evan		2.2	1	2	f		n
	engine			2.2	1	2	f		n
	Evan			2.2	1	2	f		n
	fire			2.2	1		f		n
	gakko	school		2.2	1		f		n
	gokin	metal cutting sound		2.2	1	2	f		and
	gomi	garbage		2.2	1		f		n
	green			2.2	1	3	f		adj
	gum			2.2	1		f		n
	hai	I hear you/yes		2.2	1	2	f		hok chan
	hairomel	won't enter		2.2	3	6	f		v
	heite	I put it on		2.2	2		f		v
	heiu	wear		2.2	1	2	f		v
	heiumar			2.2	1	4	f		n
	hera			2.2	1	3	f		pro
	hot held			2.2	1		f		v
	honto?	really?		2.2	1		f		adv
	horo	lost/they		2.2	1	3	f		inter
	hoshi	horse		2.2	1	5	f		n
	hoshu	wait		2.2	1	16	f		vbladj
	hot			2.2	1		f		adj
	ti	OK		2.2	1		f		adj
	iku	to go		2.2	1		f		v
	ina	not here		2.2	1		f		v
	ito	no		2.2	1	2	f		inter
	itei	ouch/it hurts		2.2	1	15	f		vbladj
	ittei	ouch/it hurts		2.2	2		f		vbladj
	itte	it hurt/it ails		2.2	2	2	f		vbladj
	tye	no		2.2	1	2	f		inter
	juju	juke		2.2	1	2	f		n
	kao	face		2.2	1	3	f		n
	kan			2.2	1		f		n
	kan kan			2.2	1		f		n
	kay	over here		2.2	1	4	f		pro
	kuchi	here		2.2	1		f		adv
	koko	this		2.2	1	8	f		pro
	kore	scary		2.2	1		f		vbladj
	kowai	break it?		2.2	1	11	f		v
	kowarechau?			2.2	3		f		

Date	Source	Utterance	Translation	Age	LU	X	Lang	Word Types	Parts of Speech
7/10/89	TC	kururu	to rumble	2.2	1	2	J	C	v
		kurumo	car	2.2	1	2	J	C	n
		flomo		2.2	1	0	N	C	n
		melle	wait	2.2	1	2	J	C	v
		meine	eye?/head	2.2	1	2	J	C	n
		mine		2.2	1	2	E	F	pro
		mlru	to see	2.2	1	2	J	C	v
		monkey		2.2	1	2	E	C	n
		monster		2.2	1	2	E	C	n
		naka	inside	2.2	1	2	J	F	part
		nama	name	2.2	1	2	J	C	n
		ne	tag marker, 'n' in qdter	2.2	1	2	J	F	inter
		neko	cat	2.2	1	2	J	C	n
		nene	sleep	2.2	1	2	J	F	n
		ni	this place	2.2	1	47	E	F	part
		no		2.2	1	2	J	F	inter
		nomu	to drink	2.2	1	3	J	C	v
		nomu	to ride	2.2	1	2	E	F	v
		not		2.2	1	12	E	F	adv
		oh		2.2	1	2	J	F	inter
		oh oh		2.2	1	2	J	F	inter
		oink oink		2.2	1	2	N	F	npo
		OK		2.2	1	2	N	F	inter
		omai	heavy	2.2	1	2	J	C	ed)
		ooh		2.2	1	2	J	C	inter
		oshi	horsey	2.2	1	2	J	C	n
		ouch		2.2	1	2	E	F	inter
		pu	p u /clinky	2.2	1	2	E	F	npo
		pentou	poit's	2.2	1	14	N	C	n
		Papa		2.2	1	10	E	C	n
		plena		2.2	1	2	E	F	fa
		please		2.2	1	2	E	C	n
		pou		2.2	1	2	E	C	n
		pequey		2.2	1	2	E	C	n
		putty		2.2	1	2	E	C	n
		Calowau	oxygen	2.2	1	2	E	C	n
		smico	7-up	2.2	1	4	J	C	n
		suu	Sainto Salty	2.2	1	2	N	C	n
		Selya	ut lualion	2.2	1	3	J	C	n
		shi	ur lualion	2.2	1	3	J	C	n
		shiko	diapers	2.2	1	2	J	F	n
		shine	thien	2.2	1	2	J	F	eds
		soko	81p	2.2	2	2	J	C	v
		tabate		2.2	1	2	J	C	n
		to:1	birds	2.2	1	5	E	C	ed)
		te to		2.2	1	3	E	C	vn
		ten		2.2	1	2	E	F	pro
		thanks		2.2	1	2	J	C	n
		this		2.2	1	2	J	C	ed)
		toto	birdie	2.2	1	2	J	C	inter
		two		2.2	1	2	E	C	n
		uh huh		2.2	1	2	E	C	inter

Date	Source	Utterance	Translation	Age	LU	N	Lang	Word Types	Parts of Speech
8/15/89	Y 7	Gummi	Gummi bear candy	2;3	1	3	E C		n
		guy		2;3	1		E C		n
		hailu	to enter	2;3	1		J C		v
		hail-hell		2;3	1		E C		n
		here		2;3	1	7	E F		adv
		hey		2;3	1		E F		inter
		hi		2;3	1		E F		inter
		hike		2;3	1	4	E C		v
		honey		2;3	1		E C		n
		hot		2;3	1	2	E C		adj
		hot?		2;3	1		E C		adj
		hurt		2;3	1	5	E C		v
		itai	It hurts	2;3	2	5	J C		vbladj
		jabu jabu?	splash splash?	2;3	1		J F		ono
		Joker?		2;3	1	7	E C		n
		Julie		2;3	1		E C		n
		Karen		2;3	1	2	E C		n
		Ken		2;3	1	2	E C		n
		kochi	over here	2;3	1	14	EJ C		n
		koko		2;3	1	2	J F		adv
		koko?	here?	2;3	1		J F		adv
		koka	hills	2;3	1		J F		pro
		kore?	this?	2;3	1		J F		pro
		kowachatta	thru it	2;3	4	6	J C		v
		light-nice		2;3	1		E C		n
		lion		2;3	1	2	E C		n
		lool		2;3	1		E C		v
		Marin		2;3	1	63	N C		n
		meime	insect	2;3	1	9	J C		n
		mitt		2;3	1		E C		n
		mine		2;3	1	9	E F		pro
		miru	to see	2;3	1	7	J C		v
		mon	exp of anger/ mono da	2;3	1		J F		inter
		mora		2;3	1		E C		adj
		mon	exp of anger	2;3	1	2	J F		inter
		neni?	what time	2;3	2	3	J F		inter
		nene	sleep	2;3	1	5	J C		n
		nene?	sleep?	2;3	1		J C		n
		no		2;3	1	49	E F		inter
		norashi	won't ride	2;3	3	2	J C		v
		oh		2;3	1	2	E F		inter
		OK		2;3	1	3	EJ C		adj
		oshiko	hon urination	2;3	2		J C		n w/honor
		outside		2;3	1	6	E F		n
		ow		2;3	1		E F		inter
		oward		2;3	2		J C		vbladj
		pal a	and	2;3	1	5	EJ C		n
		pan	foot/foot a	2;3	1		J C		n
		pl	imitation sound	2;3	1	1	J F		ono/inter
		pol a pol a	hut	2;3	1		J F		n
		Pop		2;3	1	3	EJ C		n

Date	Source	utterance	translation	Age	LI	X	Long	Word Types	Parts of Speech
8/15/89	17	sal		2;3	1		I	C	n
		snlhoat		2;3	1	2	I	C	n
		see		2;3	1		F	C	v
		Sallye	St. Seige	2;3	1	2	J	C	n
		shampoo		2;3	1		F	C	n
		shampoo	shampoo	2;3	1		J	C	n
		shampoo?	shampoo?	2;3	1		J	C	n
		shau	shower	2;3	1		N	C	n
		shi		2;3	1		J	C	n
		shoes		2;3	2	2	F	C	n
		shower		2;3	1	1	E	C	n
		shower?		2;3	1	1	E	C	n
		shush		2;3	1	2	F	C	inter
		sleepy		2;3	1		F	C	adv
		sure		2;3	1	2	F	C	adv
		te	bird	2;3	1		J	C	n
		telephone		2;3	1		E	C	n
		toile	toilet	2;3	1		J	C	n
		toile	to take	2;3	1		J	C	v
		took down		2;3	1	3	E	C	n
		turtle		2;3	1	8	E	C	n
		TV		2;3	1		E	C	n
		two		2;3	1	2	E	C	adj
		uh oh	food/milk	2;3	1	2	E	C	inter
		umma	water	2;3	1	5	J	C	n
		umma		2;3	1	3	E	C	n
		want	alligator/crocodile	2;3	1	6	J	C	n
		want?	alligator/crocodile?	2;3	1		J	C	n
		what?		2;3	1		E	C	pron
		when		2;3	1		E	C	inter
		yeah		2;3	1	3	F	C	inter
		yes		2;3	1		E	C	inter
		you		2;3	1	3	F	C	pron
		quick		2;3	1	3	F	C	inter
		yummy		2;3	1		E	C	inter
9/1/89	T 8	afania	head	2;4	1	2	J	C	n
		ahai	dirty	2;4	1	2	F	C	adj
		ball		2;4	1	2	F	C	n
		Banz	Even	2;4	1	5	E	C	n
		Batman		2;4	1	2	N	C	n
		bo	ball	2;4	1	5	F	C	n
		caridy	big me	2;4	1		F	C	v
		dakto	bad	2;4	1		J	C	adj
		dame	I was able to do it	2;4	2	2	J	C	v
		del ita		2;4	1		F	C	adv
		down		2;4	1		F	C	adv
		Evan		2;4	1		N	C	n
		fine		2;4	1		F	C	adj
		help		2;4	1		F	C	v
		hi		2;4	1		F	C	inter
		iku	to up	2;4	1		J	C	v
		itai	It hurts much	2;4	2	2	J	C	adj

Date	Source	Utterance	Translation	Age	LU	N	Lang	Word Types	Parts of Speech
9/1/89	TR	jeep	no	2.4	1	5	J	F	inter
		juice		2.4	1	8	E	C	n
		juju	juice	2.4	1	2	J	F	n
		kewachalla	changed	2.4	3	3	J	C	v
		kawalla	changed	2.4	3	3	J	C	v
		ken		2.4	1	1	N	C	n
		kara	this	2.4	1	1	J	F	pro
		kuru kuru	round and round	2.4	1	37	E	C	adv
		lodi		2.4	1	1	E	C	v
		flame		2.4	1	1	N	C	n
		meine	Inject	2.4	1	1	J	C	n
		miru	to see	2.4	1	1	J	C	v
		nom		2.4	1	3	E	C	n
		molle	hold	2.4	2	2	J	C	v
		nai	none/don't have	2.4	1	5	J	C	v
		no		2.4	1	10	E	F	inter
		noiru	to drink	2.4	1	1	J	C	v
		not		2.4	1	2	E	F	v
		ouch		2.4	1	2	E	F	adv
		ow		2.4	1	2	E	F	inter
		Fapa		2.4	1	4	E	C	inter
		robot		2.4	1	1	E	C	n
		robotu	robot	2.4	1	11	J	C	n
		robotu?	robot?	2.4	1	1	J	C	n
		soccer		2.4	1	1	E	C	n
		tabako	cigarette	2.4	1	2	J	C	n
		tickle		2.4	1	5	E	C	n
		umma	food/milk	2.4	1	3	J	C	v
		utalo	sing	2.4	2	2	J	C	v
		what?		2.4	1	1	E	F	pro
		why?		2.4	1	1	E	F	adv
		yaku	baseball	2.4	1	2	E	C	v
		yaru	to do	2.4	1	3	J	C	v
		yelle	do it	2.4	2	4	J	C	v
		yellow-jarvet		2.4	1	2	E	C	n
		yes		2.4	1	2	E	F	inter
9/5/89	TR	airplane		2.4	1	2	E	C	n
		ame	rain	2.4	1	1	J	C	n
		are (h)	excited surprise	2.4	1	1	J	F	inter
		atte	found/had	2.4	2	2	J	C	v
		bom	gun sound	2.4	1	1	N	C	ono
		Banz	even	2.4	1	2	E	C	n
		beer		2.4	1	2	E	C	n
		bicucile		2.4	1	3	E	C	n
		book		2.4	1	3	E	C	n
		bu	vehicle	2.4	1	3	J	F	n
		car		2.4	1	3	E	C	n
		chofai	give me	2.4	2	2	J	C	v
		cowabunga		2.4	1	1	J	F	v
		desu	to take out	2.4	1	2	E	C	inter
		dek-mai	can't do	2.4	2	2	J	C	v

Date	Source	Inference	Translation	Age	IU	K	Long	Word Types	Parla of Speech
9/5/89	T 8	this?		2.4	1		E	f	pro
	tella		I took it	2.4	2		J	c	v
	train			2.4	1		E	c	n
	truck			2.4	1	4	E	c	n
	uh oh			2.4	1		E	f	inter
	uma		horse	2.4	1		J	c	n
	un umh			2.4	1	2	E	f	inter
	unh		affirm back channel	2.4	1	3	J	f	bakchan
	up			2.4	1		E	f	adv
	upstairs			2.4	1		E	c	n
	washing			2.4	2	2	E	c	v
	what?			2.4	1		E	f	pro
	wow			2.4	1		E	f	inter
	yalla		do it	2.4	2		J	c	v
	yeesh			2.4	1	4	E	f	inter
	yes			2.4	1	2	E	f	inter
10/4/89	T 9		bag	2.5	1		J	c	n
	bagu			2.5	1		E	c	n
	fan			2.5	1	2	E	c	n
	flame			2.5	1		E	c	n
	mizu		water	2.5	1	3	E	f	inter
	no			2.5	1	3	J	c	v
	nomu		to drink	2.5	1		J	c	v
	nomu?		to drink?	2.5	1		J	c	v
	Oh			2.5	1		E	f	inter
	stop			2.5	1	3	E	c	v
	uma		horse	2.5	1		J	c	n
	unu?		to do?	2.5	1	2	J	c	v
10/31/89	GFWD			2.5	1		E	c	n
	candy			2.5	1		E	f	inter
	quintide			2.5	1		E	f	vbladj
	kawai		cute/for kawaii	2.5	1		J	c	vbladj
	kawai		cute	2.5	1		J	c	vbladj
	kawai		scary	2.5	1		E	f	pro
	mine			2.5	1	2	E	c	n
11/9/89	GFWD			2.5	1		E	c	n
11/25/89	T 10			2.5	1		E	c	n
	paper			2.5	1		E	c	n
	action			2.5	1	2	J	f	inter
	airplane			2.5	1	5	J	c	v
	are > (I)		huh?	2.5	1		J	c	v
	asebu		to play	2.5	2		J	c	v
	otto		found/had	2.5	1		J	c	v
	bam		gun sound	2.5	1		E	f	ono
	Ben			2.5	1		E	f	ono
	Ben		Even	2.5	1		E	c	n
	Benji			2.5	1		E	c	n
	Benji?		Even?	2.5	1		E	c	n
	Enom			2.5	1		E	f	ono
	gun sound			2.5	1	2	E	f	ono
	horling			2.5	1	3	E	c	n
	tu		vehicle	2.5	1		J	c	n
	candy			2.5	1		E	c	n
	car			2.5	1	2	E	c	n
	catch			2.5	1		E	c	v
	chor			2.5	1	5	E	c	n

Date	Source	Utterance	Translation	Age	LU	X	Lang	Word Types	Parts of Speech
11/25/80	T 10	dekita	I was able to do it	2;6	2	4	J	C	v
	der		there	2;6	1	2	E	f	adv
	della		went out	2;6	2	2	J	C	v
	dla		this	2;6	1	2	E	f	pro
	doko?		where?	2;6	1	2	J	f	infrag
	empty			2;6	1	3	E	C	adj
	fira		friend	2;6	1	3	E	C	n
	fren			2;6	1	2	N	C	n
	go			2;6	1	3	E	C	v
	gone			2;6	2	3	E	C	v
	gun			2;6	1	3	E	C	n
	haburashi		toothbrush	2;6	1	3	E	C	n
	hateiru?		is it inside	2;6	3	3	J	C	v
	hekushun		oh' hoo	2;6	1	3	E	C	inter
	Hemon		here	2;6	1	19	E	f	n
	here			2;6	1	19	E	f	adv
	hira		neigh	2;6	1	3	E	C	inter
	horsey			2;6	1	3	E	C	n
	hot			2;6	1	3	E	C	adj
	huh?			2;6	1	4	E	f	inter
	ito		let's go	2;6	2	4	E	f	v
	ite		it hurts/ital	2;6	1	11	J	f	inter
	itai		it hurts/nuch	2;6	2	4	E	C	vbladj
	jump			2;6	1	4	J	C	v
	jumi		12 o'clock	2;6	2	4	J	C	n
	ken			2;6	1	4	N	C	n
	kill			2;6	1	2	E	C	v
	koko		here	2;6	1	7	J	f	adv
	koko?		here?	2;6	1	3	J	f	adv
	kore		this	2;6	1	5	J	f	pro
	kore?		this?	2;6	1	2	J	f	pro
	look			2;6	1	2	E	C	v
	man			2;6	1	8	N	C	n
	me			2;6	1	2	E	f	pro
	mina		I saw it	2;6	1	2	E	f	pro
	mita			2;6	2	2	J	C	v
	more			2;6	1	3	E	C	adj
	na			2;6	1	3	E	f	inter
	no			2;6	1	4	E	f	inter
	oh			2;6	1	4	E	C	v
	open		get out	2;6	1	2	N	C	v
	out			2;6	1	2	E	f	n
	Papa		stinky	2;6	1	3	E	C	fa
	piencia			2;6	1	3	E	C	inter
	pupuli			2;6	1	3	E	C	n
	Pulucan			2;6	1	3	E	C	n
	rubat		find it	2;6	3	3	E	C	v
	cupchile		find it/somethle	2;6	1	3	E	C	v
	cupchile		some	2;6	1	3	E	C	adj
	samu			2;6	1	3	E	C	n
	shark			2;6	1	3	E	C	n
	shunt			2;6	1	3	E	C	v

Date	Source	Utterance	Translation	Age	L.U.	K	Lang	Word Types	Parts of Speech
11/25/89	T.10	sixteen		2.6	1		E	C	n
		some		2.6	1		E	C	n
		snur		2.6	1		E	C	n
		sure	7-up	2.6	1		E	C	adj
		tabako	cigarette	2.6	1		E	C	adj
		tabako?	cigarette?	2.6	1	2	J	C	n
		tabete	eat it	2.6	2		J	C	n
		taka	artichus	2.6	1		J	C	v
		teenage		2.6	1		E	C	n
		terebi	television	2.6	1		E	C	adj
		there		2.6	1		E	C	n
		tiger		2.6	1		E	C	n
		tree		2.6	1		E	C	n
		tree?		2.6	1		E	C	n
		uh huh		2.6	1	23	F	F	inter
		uh oh		2.6	1	3	J	F	inter
		umm	I hear you/yes	2.6	1	2	E	F	inter
		un unh		2.6	1		E	C	inter
		wa	water	2.6	1		E	C	n
		want		2.6	1		E	C	v
		watch		2.6	1	2	E	C	v
		what?		2.6	1	2	E	F	pro
		whumps		2.6	1		E	F	inter
		wire		2.6	1	2	E	C	n
		yemu	to do	2.6	1		J	C	v
		yase	do it/yotte	2.6	1		E	C	v
		yalla	do it	2.6	2	9	E	C	v
		yesh		2.6	1	2	E	F	inter
		yonde	read it	2.6	3	2	J	C	v

APPENDIX B

MULTIPLE-WORD UTTERANCES

Key to Appendix B:

LU=Length of Utterances

X=Number of Occurences

Lang=Language

Date	Source	Utterance	Translation	Age	LU	X	Lang	Syntax	Word Types	Parts of Speech
4/26/89	T 1	alle nene	found sleep	2;0	3		J	JNH	2c	1 n l v
		babai no	not dirty	2;0	2		EJ	N	1c 1f	1 adj 1 adv
		Cubby mine		2;0	2		E	ENH	1c 1f	1 pro 1 n
		It go	It's OK	2;0	2		J	JNH	2c	1 od 1 v
		juju please	juice please	2;0	2	2	EJ	N	1c 1f	1 n 1 fa
		key nei	no key	2;0	2		J	JNH	2c	1 n 1 ne
		wen dis Papa		2;0	3		E	ENH	2c 1f	1 pro 1 n l v
5/12/89	T 1	oh my gosh		2;0	1		E	ENH	1c 2f	1 inter 1 n l pro
6/1/89	GFWD	Papa dokn	where's Papa	2;1	2		J	JNH	1c 1f	1 intro 1 n
		want same		2;1	2		E	ENH	2c	1 od 1 v
6/10/89	GFWD	apa key here	Papa key here	2;1	3		E	ENH	2c 1f	2 n 1 po
		go please		2;1	3		E	ENH	1c 1f	1 fa 1 v
		hi Papa		2;1	2		E	ENH	1c 1f	1 inter 1 n
		hi toto	hi birdie	2;1	2		EJ	N	1c 1f	1 inter 1 n
		ito please	it please	2;1	2		E	ENH	2f	1 fa 1 pro
		ne Papa	hey Papa	2;1	2		J	JNH	1c 1f	1 inter 1 n
		no Papa		2;1	2		E	ENH	1c 1f	1 od 1 n
		Papa dokn	where's Papa	2;1	2		J	JNH	1c 1f	1 intro 1 n
		Papa me boy		2;1	3		E	ENH	2c 1f	1 pro 2 n
		Papa no		2;1	2		E	ENH	1c 1f	1 od 1 n
		Papa this		2;1	2		E	ENH	1c 1f	1 n 1 pro
		Papa toy		2;1	2		E	ENH	2c	2 n
		pretty flou	pretty flower	2;1	2		E	ENH	2c	1 od 1 n
		shito please	pee please	2;1	2		EJ	N	1c 1f	1 fa 1 n
		toto gone	birdie gone	2;1	2		EJ	N	2c	1 n l v
		birdie please	birdie please	2;1	2		EJ	N	1c 1f	1 fa 1 n
		clork Papa	clork Papa	2;1	2		EJ	N	2c	2 n
		wahhi Papa		2;1	3		EJ	EW	1c 2f	1 intro 1 n l pro
		who dis toto	what's this birdie	2;1	3		E	ENH	1c 1f	1 intro 1 v
		who doing?		2;1	2		E	ENH	2c	1 n l v
6/11/89	T 2	boobe arr	there's a bomber	2;1	2	2	J	JNH	2c	1 n l v
		chon chon train		2;1	1	4	E	ENH	1c 1f	1 n l v
		un un kite		2;1	3		J	JNH	2c	1 n l v
6/14/89	GFWD	Panchan kuru	Master ken's coming	2;1	3		J	JNH	2c	1 n l v
		Hema kuru	Hema's coming	2;1	2		J	JNH	2c	1 n l v
		Hema's buk	Hema's book	2;1	3		J	JNH	2c	1 n l v
		toto gone	birdie gone	2;1	3		EJ	N	2c	2 n
6/16/89	T 2	Panzt wa kepup	Evay want's ketchup	2;1	3		EJ	N	2c	1 n l v
		juke Hema		2;1	3		E	ENH	2c	2 n l part
		kepup Papa's		2;1	3		E	ENH	2c	1 n l v
		ken bu	Ken vehicle	2;1	3		E	N	2c	2 n
		Hema tye		2;1	2		J	JNH	2c	2 n
		no Ken		2;1	2		E	ENH	1c 1f	1 inter 1 n
		oh teddy		2;1	2		E	ENH	1c 1f	1 od 1 n
		what's that		2;1	3		E	ENH	1c 1f	1 inter 1 n
6/19/89	T 2	Papa bishi bishi	Papa's wet	2;1	3		J	JNH	2c	1 intro 1 pro 1 v
		ore O juice	that's juice	2;1	2	2	EJ	N	1c 1f	1 od 1 n
		Aunt Edna		2;1	1		E	ENH	2c	1 n l pro
		Panzt juice		2;1	2		E	ENH	2c	2 n
		bishi bishi wada	wet water	2;1	2		EJ	N	2c	1 od 1 n
		boot shoes		2;1	2		E	ENH	2c	1 od 1 n
		chon chon train		2;1	1	6	F	ENH	1c 1f	1 n l v

Date	Source	Utterance	Translation	Age	ILU	X Lang	Syntax	Word Types	Parts of Speech
6/19/89	T 2	here comes Ranz		2;1	4	E	ENH	2c 1f	1 n 1 pe 1 v
		I'm gonna say it		2;1	5	E	ENH	3c 2f	2 pro 3 v
		juice are (J)	It's OK	2;1	2	J	JNH	2c	1 edj 1 v
		juice are	that's juice	2;1	2	EJ	N	1c 1f	1 n 1 pro
		Hama kuru	here juice	2;1	2	EJ	JNH	2c	1 n 1 v
		Hama took	Hama's coming	2;1	2	J	JNH	2c	1 n 1 v
		no umma		2;1	2	E	ENH	2c	1 n 1 v
		no way	no food/milk	2;1	2	EJ	ENH	2c	1 edj 1 v
		oh juice		2;1	1	E	ENH	1c 1f	1 edv 1 n
		sau juice	sour juice?? Up?	2;1	2	E	ENH	1c 1f	1 inter 1 n
		this huh?		2;1	2	E	ENH	2c	1 edj 1 n
		unchi no	no pee	2;1	2	EJ	N	1c 1f	1 prep 1 v
		watch out		2;1	2	E	ENH	1c 1f	1 fa 1 n
		coffee please		2;1	2	4	E	ENH	1 fa 1 n
6/20/89	T 4	Ken kuru	Ken's coming	2;1	2	J	JNH	2c	1 n 1 v
		Papa Hama		2;1	2	EJ	N	2c	2n
		pen pan Hama	spank Hama	2;1	2	J	JNH	2c	2n
		pira mine	pillow mine	2;1	2	E	ENH	1c 1f	1 pro 1 n
		uin uin kuru	siren comes	2;1	2	J	JNH	2c	1 n 1 v
		where you go Papa		2;1	4	E	ENH	2c 2f	1 intro 1 n 1 pro 1 v
6/24/89	T 4	Chao chon train	bubbles are coming out	2;1	1	E	ENH	1c 1f	1 n 1 v
6/29/89	T 5	beburu dele	Evans's lunch	2;2	3	J	JNH	2c	1 n 1 v
		Ran han ranchi		2;2	3	J	JNH	2c 1f	2 n 1 honor
		blanket please		2;2	2	E	ENH	1c 1f	1 n 1 fa
		bu bus	bus	2;2	2	EJ	N	2c	2n
		bubble bath		2;2	2	E	ENH	2c	2n
		bus eru	have bus	2;2	2	J	JNH	2c	1 n 1 v
		bus noru	ride bus	2;2	2	J	JNH	2c	1 fa 1 n
		chiri itai	button's hurt	2;2	3	J	JNH	1c 1f	1 n 1 pro
		delle me	that one	2;2	2	E	ENH	1c 1f	1 n 1 pro
		dis way	this way	2;2	2	E	ENH	1c 1f	1 edj 1 v
		dondun deme	steadily had	2;2	2	J	JNH	1c 2f	1 v 2 pro
		I wan dis		2;2	3	E	ENH	1c 1f	1 v 1 pro 1 v
		I want		2;2	2	E	ENH	1c 2f	1 v 1 pro 1 v
		I want to		2;2	2	E	ENH	1c 2f	1 v 1 pro 1 v
		li go	It's OK	2;2	2	J	JNH	2c	1 edj 1 v
		li go Hama	It's OK Hama	2;2	3	J	JNH	3c	1 edj 1 n 1 v
		llei no	hurt no	2;2	2	EJ	N	2f	1 v 1 vbledj
		llei go	It hurts	2;2	2	J	JNH	1c 1f	2n
		Hama nene	Hama sleep	2;2	2	J	JNH	2c	1 v 1 tag
		nei ne?	It's not here, is it?	2;2	2	J	JNH	1c 1f	1 n 1 v
		nene go	sleep	2;2	2	J	JNH	2c	1 n 1 v
		no way		2;2	1	12	E	ENH	1 n 1 inter
		oh fan	Papa wants it	2;2	2	E	ENH	2c 1f	2n 1 inter
		Papa hoshit	petal have	2;2	2	EJ	N	1c 1f	1 n 1 inter
		petal aru	went shampoo	2;2	2	J	JNH	2c	1 n 1 vbledj
		shampoo hoshit		2;2	2	EJ	N	2c	1 n 1 v
		thank you		2;2	2	J	JNH	1c 1f	1 n 1 vbledj
		uin uin bu	vehicle w/siren	2;2	1	J	JNH	1c 1f	1 v 1 prep
		want same		2;2	2	EJ	JNH	2c	1 edj 1 n
				2;2	2	E	ENH	2c	

Date	Source	Utterance	Translation	Age	LU	X	Lang	Syntax	Word Types	Parts of Speech
7/10/89	T 6	ulmin bu alia yn	stern vehicle found/had	2;2	5		J	JNI	4c	adj in 2v
		ulmin kore go	siren will come	2;2	3		J	JNI	1c 2f	in prep iv
		ulmin kuru	food/milk want	2;2	2		J	JNI	2c	in iv
		unma hoshii	food/milk hold	2;2	2	2	J	JNI	1c 1v	in 1vbladj
		unma motte	what about food/milk?	2;2	3		J	JNI	2c	in iv
		unma te?	want this	2;2	2		J	JNI	1c 1f	in 1vbl
		wan dis	what's this called?	2;2	4		E	ENI	1c 1f	in prep iv
		was dis called?	what's this?	2;2	3	2	E	ENI	2c 2f	2c 2f
		was dis?	what's this?	2;2	3	2	E	ENI	1c 2f	2c 2f
		where's the hammer	where's the hammer	2;2	4		J	JNI	2c 2f	2c 2f
8/15/89	T 7	zosan netel	Mr Elephant wants to sleep	2;2	4		J	JNI	2c 2f	part 1 adv in iv
		a dinnerider		2;2	2		E	ENI	2c	in honor in iv 1vbladj
		a shower?		2;2	2		E	ENI	1c 1f	in honor in iv 1vbladj
		ono ne	listen	2;3	2		E	ENI	2f	in honor in iv 1vbladj
		ette Ken	found/had/en	2;3	3	3	J	JNI	2c	in honor in iv 1vbladj
		Aunt Edna		2;3	3		H	N	2c	in honor in iv 1vbladj
		Banchan halru	Even enter	2;3	3		J	JNI	2c 1f	in honor in iv 1vbladj
		Banchan hoshii	Hester Evan wants	2;3	3		J	JNI	1c 2f	in honor in iv 1vbladj
		big trouble		2;3	2		E	ENI	2c	in honor in iv 1vbladj
		big trouble Ken		2;3	2		E	ENI	3c	in honor in iv 1vbladj
		blanket hoshii	I want the blanket	2;3	2		EJ	JNI	1c 1f	in honor in iv 1vbladj
		bu dot-o?	where's the vehicle?	2;3	2		J	JNI	1c 1f	in honor in iv 1vbladj
		bu ne	vehicle, isn't it	2;3	2		J	JNI	1c 1f	in honor in iv 1vbladj
		bu no	vehicle no	2;3	2	3	EJ	N	1c 1f	in honor in iv 1vbladj
		bu naru	ride bus	2;3	2		J	JNI	2c	in honor in iv 1vbladj
		bu notteiru	riding vehicle	2;3	2	2	J	JNI	2c	in honor in iv 1vbladj
		can I take a shower?		2;3	4	3	E	ENI	3c 1f	in honor in iv 1vbladj
		can I?		2;3	2		E	ENI	1c 1f	in honor in iv 1vbladj
		candy chodai	give me candy	2;3	2		EJ	JNI	1c 1f	in honor in iv 1vbladj
		candy hoshii	want candy	2;3	2	2	EJ	JNI	1c 1f	in honor in iv 1vbladj
		car out		2;3	2		E	ENI	1c 1f	in honor in iv 1vbladj
		chichai kore Hama	small miss Hama	2;3	3		J	JNI	2c 1f	in honor in iv 1vbladj
		chon chon train		2;3	1		E	ENI	2c	in honor in iv 1vbladj
		chon chon train come on		2;3	3		E	ENI	2c 2f	in honor in iv 1vbladj
		chotin candy	a bit of candy	2;3	2	3	EJ	N	1c 1f	in honor in iv 1vbladj
		chotin dake	just a little	2;3	2	2	J	JNI	2c	in honor in iv 1vbladj
		Chu Hama	Kiss Hama	2;3	2		J	JNI	2c	in honor in iv 1vbladj
		come here		2;3	2		E	ENI	1c 1f	in honor in iv 1vbladj
		come on		2;3	2	2	E	ENI	1c 1f	in honor in iv 1vbladj
		cute bu	cute vehicle	2;3	2		EJ	N	2c	in honor in iv 1vbladj
		cute ninja turtle		2;3	5		E	ENI	3c	in honor in iv 1vbladj
		day care	doing in-act	2;3	3		E	ENI	2c	in honor in iv 1vbladj
		doing mama		2;3	3		E	ENI	2c	in honor in iv 1vbladj
		drinking juice		2;3	3		E	ENI	2c	in honor in iv 1vbladj
		Garfield gane		2;3	3		E	ENI	2c	in honor in iv 1vbladj
		Garfield's in There Hama		2;3	5		E	ENI	3c 2f	in honor in iv 1vbladj
		get serious		2;3	2	2	E	ENI	2c	in honor in iv 1vbladj
		get set go		2;3	2	2	E	ENI	3c	in honor in iv 1vbladj
		go home		2;3	2	3	E	ENI	2c	in honor in iv 1vbladj
		hey dude		2;3	2	4	E	ENI	1c 1f	in honor in iv 1vbladj
		hey Garfield gone Hama		2;3	5		E	ENI	3c 1f	in honor in iv 1vbladj

Date	Source	Utterance	Translation	Age	U/L	X	Lang	Syntax	Word Types	Parts of Speech
8/15/89	T	hey guys		2.5	3	2	E	ENH	1c 1f	tinter in
		hey Hama		2.5	2	2	E	ENH	1c 1f	tinter in
		hey you		2.5	2	2	E	ENH	2f	tinter ipro
		hi guys		2.5	3	5	E	ENH	1c 1f	tinter in
		hot wado		2.5	2	2	E	ENH	2c	ledj in
		I know Hama		2.5	3	2	E	ENH	2c 1f	in ipro iv
		I see you		2.5	3	2	E	ENH	1c 2f	2pro iv
		I'm broke		2.5	3	5	E	ENH	2c 1f	ledj ipro iv
		I'm sleepy		2.5	3	5	E	ENH	1c 2f	ledv in iv
		It's candy		2.5	3	3	E	ENH	2c 1f	toro in iv
		It's hot		2.5	3	3	E	ENH	2c 1f	ledj ipro iv
		It's ken		2.5	3	3	E	ENH	2c 1f	in ipro iv
		It's wand		2.5	3	2	EJ	ENH	2c 1f	in ivblad
		juju hushit		2.5	2	2	J	JNH	1c 1f	in iv
		ken au		2.5	2	3	J	JNH	2c	2n
		ten baka		2.5	2	2	J	JNH	2c	2n
		ken milk		2.5	2	2	E	ENH	2c	2n
		tsanhan		2.5	2	2	J	JNH	1c 1f	thonor in
		keichen awany		2.5	3	2	J	JNH	2c 1f	thonor in iv
		kei hup itai		2.5	3	3	EJ	N	1c 1f	in ivblad
		kochi meme		2.5	2	3	J	JNH	1c 1f	ledv in
		kochi nene		2.5	2	2	J	JNH	1c 1f	ledv in
		kore Chichai		2.5	2	4	J	JNH	1c 1f	ledj ipro
		kore meme		2.5	2	2	J	JNH	1c 1f	ledv ipro
		kore nif		2.5	2	2	EJ	N	2f	iv ivblad
		kowei you		2.5	2	2	J	JNH	1c 1f	in iv
		kwawachau TV?		2.5	4	2	EJ	N	2c	2n
		Hama au ne		2.5	3	2	J	JNH	1c 2f	2inter in
		Hama Chotto		2.5	2	2	J	JNH	1c 1f	ledv in
		Hama cufe		2.5	2	2	E	ENH	2c	ledj in
		Hama Chomader		2.5	2	2	E	ENH	2c	2n
		Hama heie rufe		2.5	2	2	E	ENH	2c 1f	ledj ledv in
		Hama kifu		2.5	2	2	J	JNH	2c	in iv
		Hama touk at dis		2.5	4	2	E	ENH	2c 2f	in ipro iprep iv
		Hama meme kochi		2.5	3	2	J	JNH	2c 1f	ledv 2n
		Hama nene		2.5	2	2	J	JNH	2c	2n
		Hama nioja turtle		2.5	3	2	E	ENH	3c	3n
		Hama uanchui		2.5	2	2	J	JNH	2c	2n
		Hama Sait		2.5	2	2	J	JNH	2c	2n
		Hama shau		2.5	2	2	E	ENH	1c 1f	ledc in
		Hama turtle		2.5	2	2	EJ	N	2c	2n
		meme here		2.5	2	2	J	JNH	1c 1f	ledv in
		meme kochi		2.5	2	2	J	JNH	1c 1f	ledv in
		meme kochi Hama		2.5	3	2	J	JNH	2c 1f	ledv 2n
		meme koto		2.5	2	2	J	JNH	1c 1f	ledv in
		meme kore		2.5	2	2	J	JNH	1c 1f	ipro in
		meme Hama		2.5	2	2	J	JNH	2c	2n
		meme ue		2.5	2	2	J	JNH	1c 1f	ledv in
		memeu kitiy came		2.5	2	2	E	ENH	2c 1f	in towa iv
		ultra Hama		2.5	3	2	E	ENH	1c 1f	in ipro
		nanit up for a ride?		2.5	6	2	EJ	N	2c 3f	part turg in iprep iv
		nene belle		2.5	2	2	J	JNH	2c	in iv

Date	Source	Utterance	Translation	Age	LI	X	Long	Syntax	Word Types	Parts of Speech
8/15/89	T.7	nene m	sleep m	2;3	2		EJ	N	1c 1f	In Inter
		night night		2;3	1		E	ENH	1f	Inter
		ninja turtle		2;3	2	22	E	ENH	2c	2n
		ninja turtle here Mama		2;3	4		E	ENH	3c 1f	leav 3n
		ninja turtle ne	ninja turtle isn't it	2;3	3		EJ	N	2c 1f	2n 11ag
		ninja turtle pizza		2;3	3		E	ENH	3c	3n
		ninja turtle umma		2;3	3		EJ	N	3c	3n
		no Garfield gina		2;3	4		E	ENH	2c 1f	Inter In 1v
		no it's not		2;3	4	16	E	ENH	1c 3f	Inter In 1v
		no Ken		2;3	2	8	E	ENH	1c 1f	Inter In
		no Mama		2;3	2		EJ	N	1c 1f	In Inter
		no not	no sleep	2;3	2		E	ENH	2f	Inter
		no s not	no it's not	2;3	3		E	ENH	1c 2f	Inter In 1v
		no s not later	no it's not later	2;3	4		E	ENH	2c 2f	Inter In 1v
		no way		2;3	1	3	E	ENH	1c 1f	Inter In
		noranal bu	not ride vehicle	2;3	4	2	J	JNH	2c	In 1v
		noranal car	not ride car	2;3	4	4	E	ENH	2c	In 1v
		one two		2;3	2	4	E	ENH	2c	In 1v
		PCC noru	PCC ride	2;3	3	3	EJ	N	2c	In 1v
		pizza wan some	pizza want some	2;3	3		E	ENH	2c 1f	Inter In 1v
		school bus		2;3	2		E	ENH	2c	2n
		seken babal		2;3	3	2	EJ	N	3c	Inter 2n
		show up	soap is dirty	2;3	2		J	JNH	2c	Inter In
		shut up		2;3	1	3	E	ENH	1c 1f	Inter In
		tara mila	I saw a tiger	2;3	3		E	ENH	2c	Inter In
		toy car Mama		2;3	3		EJ	N	2c 2f	Inter 2n 1v
		turtle power		2;3	3		E	ENH	1c 1f	Inter In
		umma bu	stren vehicle	2;3	1	2	EJ	N	2c	Inter In
		umma bu no way	stren vehicle no way	2;3	3		EJ	N	2c 2f	Inter 2n 1v
		umh Garfield	yes Garfield	2;3	1		EJ	N	1c 1f	Inter In
		usa ken	the pen	2;3	2		J	JNH	2c	Inter In
		wah dat	want that	2;3	2		E	ENH	1c 1f	Inter In
		wan some	want some	2;3	2		E	ENH	1c 1f	Inter In
		wan some (umma)	want some	2;3	2		E	ENH	1c 1f	Inter In
		wan some (umma) Mama	want some Gummybear candy	2;3	4	2	E	ENH	3c 1f	Inter In 1v
		wah out	want some Gummy Mama	2;3	2		E	ENH	1c 1f	Inter In
		what doing		2;3	2		E	ENH	1c 1f	Inter In
		what's in there?		2;3	4		E	ENH	2c 2f	Inter In 1v
		yelle yoru	I'll do it (emph)	2;3	3		J	JNH	2c	Inter In
		yeah flom		2;3	2		E	ENH	1c 1f	Inter In
		you meane	you insert	2;3	2		EJ	N	1c 1f	Inter In
		you man	you anger exp / muna	2;3	2		EJ	N	2f	Inter In
		you wanna coffee?		2;3	3		E	ENH	2c 1f	Inter In 1v
		ome go	it's rain	2;4	2		J	JNH	2c	Inter In
		ome tickle tickle	head tickle tickle	2;4	3		EJ	N	2c	Inter In
		Flanchan jeep	it I can jeep	2;4	3		EJ	N	2c	Inter In
		taje meam		2;4	2	2	E	ENH	1c 1f	Inter In
		daki toshiti	long want	2;4	3		J	JNH	1c 1f	Inter In
		daki to sukau	long use	2;4	4		J	JNH	2c	Inter In
		dat way tickle tickle tickle	that way	2;4	4		E	ENH	2c 1f	Inter In 1v

9/1/89 T.8

Date	Source	Utterance	Translation	Age	LU	X	Lang	Syntax	Word Types	Parts of Speech
9/15/80	10	Car doko hama?	Car where? hama	2;4	3	2	E, J	JNH	2c 1f	Introq 2n
		car doko?	car where?	2;4	2	2	E, J	JNH	1c 1f	Introq 1n
		Chu dane	kiss had	2;4	2	2	J	JNH	1c 1f	1edj 1n
		come airplane		2;4	2	2	E	ENH	2c	1n 1v
		crash no		2;4	2	2	E	ENH	1c 1f 2n	1inter 1n (v?)
		don't open		2;4	2	2	E	ENH	1c 1f	1edv 2v
		Garfield doko?	where's Garfield?	2;4	2	2	E, J	N	2c 1f	1edv 1n 1v
		gachiso? hama	thank you for the meal	2;4	1	2	J	JNH	1c 2f	2honor 1n
		here's one		2;4	2	2	E	ENH	2c 1f	1pro 1n 1v
		hi hama		2;4	2	2	E	ENH	1c 1f	1inter 1n
		I need		2;4	2	2	E	ENH	1c 1f	1pro 1v
		I want Garfield		2;4	2	2	E	ENH	2c 1f	1pro 1v
		I want to find it		2;4	5	2	E	ENH	2c 3f	1orap 2pro 2v
		in not		2;4	2	2	E	ENH	2c 1f	1pro 1n 1v
		Itai hama	It hurts hama	2;4	2	2	J	JNH	1c 1f	1n 1v 1edj
		itai da	no is	2;4	2	2	J	JNH	1c 1f	1inter 1v (cop)
		kyo mo	here also	2;4	2	2	J	JNH	2f	2adv
		kyamatta ne	that's too bad, isn't it	2;4	2	2	J	JNH	1c 1f	1tag 1v
		kore mite	look at this	2;4	2	2	J	JNH	1c 1f	1pro 1v
		kore mo	this too	2;4	2	2	J	JNH	2f	1adv 1pro
		kore wa?	what's this?	2;4	2	2	J	JNH	2f	1part (cop) 1pro
		kore uatte	this do	2;4	2	2	J	JNH	1c 1f	1pro 1v
		hama bebai	hama is dirty	2;4	2	2	J	JNH	1c 1f	1n 1v 1edj
		Hama blanket		2;4	2	2	F	ENH	2c	2n
		Hama dakko	Mama hug	2;4	2	2	J	JNH	2c	1n 1v
		Hama down there iku	Mama down there go	2;4	2	2	E, J	Jv/H	2c 1f	1adv 1n 1v
		Hama I find it		2;4	2	2	E, J	N	2c 2f	2n
		Hama itai	Mama isn't here	2;4	2	2	J	JNH	2c	2pro 1n 1v
		Hama naichatta	Mama cries	2;4	2	2	J	JNH	2c	1n 1v
		Hama naichau	Mama cries	2;4	2	2	J	JNH	2c	1n 1v
		Hama naichau miru no?	look at hama's crying?	2;4	2	2	J	JNH	3c 1f	1n 1v
		Hama no pen	hama's pen	2;4	2	2	J	JNH	2c 1f	1n 1poss part 2v
		Hama pencil		2;4	2	2	E	ENH	2c	1n 1poss
		nie too		2;4	2	2	E	ENH	2c	2n
		flon here's one	flon here	2;4	2	2	E	ENH	3c 1f	1adv 1pro
		flon koto	motorcycle vehicle	2;4	2	2	E, J	N	1c 1f	1adv 2n 1v
		motorcycle bu		2;4	2	2	E	ENH	2c	1adv 1n
		no hama		2;4	2	2	E	ENH	1c 1f	2n
		not now		2;4	2	2	E	ENH	2f	1inter 1n
		not no		2;4	2	2	E	ENH	1c 1f	1adv 1inter
		not now		2;4	2	2	E	ENH	1f	1adv 1n
		oh no		2;4	2	2	E	ENH	1c 1f	1inter
		oh oh gone		2;4	2	2	E	ENH	1c 1f	1inter 1v
		omizu hosshi	hot water want	2;4	2	2	J	JNH	1c 2f	1thum 1n 1v 1edj
		one two three four gose		2;4	2	2	E	ENH	5c	4n 1v
		oppo crash car		2;4	2	2	E	ENH	2c 1f	1inter 1n 1v
		open dis	open this	2;4	2	2	E	ENH	1c 1f	1pro 1v
		play ubat		2;4	2	2	E	ENH	2c	1n 1v
		sue-ha hatri	sweater enter	2;4	2	2	J	JNH	2c	1n 1v
		thank you		2;4	2	2	E	ENH	1c 1f	1pro 1v
		tissue kure	tissue this	2;4	2	2	E, J	N	1c 1f	1pro 1n

Date	Source	Utterance	Translation	Age	IU	X	Lang	Spintax	Word Types	Parts of Speech
9/21/89	T 8	up there		2.4	1		E	ENH	2f	prep lpro
		won dis	won't this	2.4	2		E	ENH	1c 1f	lpro 1v
		walch it		2.4	2		E	ENH	1c 1f	pro 1v
9/27/89	GFWD	yafairu ne	we're doing it, right?	2.4	4		J	JNH	1c 1f	1fag 1v
		see dis	see this	2.5	2		E	ENH	1c 1f	lpro 1v
		Selmo Selmo mo nechalto	St Sheslredugona to sleep	2.5	6		J	JNH	3c 1f	1adv 2n 1v
		won dis	won't this	2.5	2		E	ENH	1c 1f	lpro 1v
10/4/89	T 9	Banz Euchen urusal Ok	Even if Even noisy OK	2.5	5		EJ	N	3c 2f	1adv 1thour 2n 1v 1v 1v
		Banz nomu	Even to drink	2.5	2		I	N	2c	1n 1v
		Banz nomu	Even to drink	2.5	2		I	N	2c	1n 1v
		bent you		2.5	2		E	ENH	1c 1f	lpro 1v
		car you		2.5	2		E	ENH	1c 1f	lpro 1v
		Even urusal not	Even not noisy	2.5	3		EJ	N	1c 2f	1adv 1n 1v 1v 1v
		ken urusal	ken noisy	2.5	2		J	JNH	1c 1f	1n 1v 1v 1v
		ken urusal not	ken not noisy	2.5	3		EJ	N	1c 2f	1adv 1n 1v 1v 1v
		ken urusal go	ken is noisy (emph)	2.5	3		J	JNH	2c 1f	1n 1v 1v 1v
		kore mine	this mine	2.5	2		EJ	N	2f	2n
		Hama car		2.5	2		E	ENH	2c	2n
		Hama itall	Hama huts	2.5	2		J	JNH	1c 1f	1n 1v 1v 1v
		Hama ten yaru		2.5	3		J	JNH	3c	2n 1v
		Hama opai doko?	Hama leaf's where?	2.5	3		J	JNH	2c 1f	1fing 2n
		Hama urusal not	Hama not noisy	2.5	3		EJ	N	1c 2f	1adv 1n 1v 1v
		miru horse	see horse	2.5	2		EJ	N	2c	1n 1v
		OK Banz utsu Hama	OK Even shout Hama	2.5	4		EJ	N	3c 1f	1fing 2n 1v
		Selmo Selmo	St Selmo	2.5	2		J	JNH	2c	2n
		furlterhan chodai	little turtle want	2.5	3		EJ	JNH	1c 2f	1thour 1n 1v 1v
		yaru mine	to do mine	2.5	2		EJ	N	1c 1f	lpro 1v
10/7/89	GFWD	nondet not	drinking not	2.5	4		EJ	JNH	1c 1f	1adv 1v
10/8/89	GFWD	gomensal not	sorry not	2.5	2		E	ENH	1c 1f	1adv 1n
		Henan over		2.5	2		E	ENH	2c	1adv 1n
10/31/89	GFWD	kowai go	Henan end	2.5	2		J	JNH	2c	1n 1v
		oh mid gosh	It's scary (emph)	2.5	2		J	JNH	1c 1f	1v 1v 1v 1v
		open door		2.5	1		E	ENH	3f	2fing 1pro
		see you again		2.5	2		E	ENH	2c	1n 1v
		thank you		2.5	3		E	ENH	2c 1f	1adv 1pro 1v
11/6/89	GFWD	trick or treat		2.5	1		E	ENH	2c 1f	1adv 1pro 1v
11/9/89	GFWD	baburu bath	bubble bath	2.5	2		EJ	N	2c	1adv 1pro 1v
		thank you		2.5	3		E	ENH	1c 1f	1pro 1v
11/25/89	T 10	this is garbage		2.6	2		E	ENH	1c 1f	1adv 1n
		a turtle	take that	2.6	3		J	JNH	1c 1f	1pro 1v
		are (J) totle		2.6	2		E	ENH	2f	2fing
		aw come on		2.6	2		E	ENH	2f	2fing
		bam	gun sound	2.6	1		I	N	1f	1n 1v
		bam bam	gun sound	2.6	1		I	N	1f	1n 1v
		Banchan are (J) up	It's (J) that is (J) up	2.6	3		J	JNH	2c 2f	1thour 1pro 1n 1v
		Banz hushi	Even hat	2.6	2		I	N	2c	2n
		Banz shoot	Even shoot	2.6	2		E	N	2c	1n 1v
		Banz yaru	Even do	2.6	2		I	N	2c	2n
		Banz yaru	Even do	2.6	2		I	N	2c	2n
		boom	gun sound	2.6	1		E	ENH	1f	1fing 2n
		boshi nomu	let's drink hat	2.6	3		J	JNH	2c	1n 1v

Date	Source	Utterance	Translation	Age	LU	K	Lang	Syntax	Word Types	Parts of Speech
11/25/80	T 10	boshi yatte	hat do	2;6	3		J	JNH	2c	In 1v
		boxing guru	boxing do	2;6	2		EJ	N	2c	In 1v
		bu yatte	vehicle do	2;6	3		J	JNH	2c	In 1v
		bye bye		2;6	1		N	N	1f	inter
		Can I see it?		2;6	4		E	ENH	2c 2f	2pro 2v
		Can I see, Hama?		2;6	4		E	ENH	3c 1f	In 1pro 2v
		Can I?		2;6	2		E	ENH	1c 1f	1pro 1v
		can't see		2;6	3		E	ENH	2c 1f	1adv 2v
		car hoshi	car want	2;6	2		EJ	JWH	1c 1f	In 1vbladv
		come ara	come here	2;6	2		E	ENH	1c 1f	1adv 1v
		come here		2;6	2		E	ENH	1c 1f	1adv 1v
		come on		2;6	2		E	ENH	1c 1f	1prep 1v
		der turtle	there turtle	2;6	2		E	ENH	1c 1f	1adv 1v
		dis bird	this bird	2;6	2		E	ENH	1c 1f	1pro 1v
		dis boat	this boat	2;6	2		E	ENH	1c 1f	1pro 1v
		dis is boat	this is boat	2;6	3		E	ENH	2c 1f	1pro 1v
		dis turtle	this turtle	2;6	2		E	ENH	1c 1f	1pro 1v
		tire doko no here	tire where pass here	2;6	4		EJ	N	1c 3f	1intro 1v 1poss 1pro
		tire watch		2;6	2		E	ENH	2c	In 1v
		for me juice		2;6	3		E	ENH	1c 2f	1prep 1pro 1v
		fran over	friend over	2;6	2		E	ENH	1c 1f	In 1prep
		fran Robocop	friend Robocop	2;6	2		E	ENH	2c	2n
		got it		2;6	2		E	ENH	1c 1f	1pro 1v
		hai juice	here's juice	2;6	2		EJ	N	1c 1f	inter 1v
		haiteiru Hama	it's in there Hama	2;6	5		J	JNH	2c	In 1v
		he's bird		2;6	3		E	ENH	2c 1f	In 1pro 1v
		help me		2;6	2		E	ENH	1c 1f	1pro 1v
		Henan ga shinde	Henan died	2;6	4		EJ	JWH	2c 1f	In 1part
		Henan yatte	Henan do	2;6	3		EJ	JWH	2c	In 1v
		here ara	here there	2;6	2		E	ENH	2f	2adv
		here thing		2;6	2		E	ENH	1c 1f	1pro 1v
		here's bee		2;6	3		E	ENH	1c 1f	1pro 1v
		horse yatte	horse do it	2;6	3		EJ	N	2c 1f	1adv 2n
		hoshi delin	I was able to do horsey	2;6	3		EJ	N	2c	In 1v
		I ran		2;6	3		EJ	JWH	2c	In 1v
		I can't see		2;6	2		E	ENH	1c 1f	1pro 1v
		I can't see like this		2;6	4		E	ENH	2c 2f	1adv 1pro 2v
		I can't see that this		2;6	6		E	ENH	3c 2f	1adv 1pro 2pro 2v
		I don't want it		2;6	5		E	ENH	2c 3f	1adv 2pro 2v
		I go		2;6	2		E	ENH	1c 1f	1pro 1v
		I go upstairs at 12		2;6	4		E	ENH	1c 1f	1pro 1v
		I got a turtle		2;6	5		E	ENH	2c 2f	1adv 1n 1pro 1v
		I got it		2;6	4		E	ENH	1c 2f	1n 2pro 1v
		I say in		2;6	3		E	ENH	1c 2f	inter 1pro 1v
		I see		2;6	2		E	ENH	1c 1f	1pro 1v
		I see turtle		2;6	3		E	ENH	2c 1f	In 1pro 1v
		I see TV		2;6	3		E	ENH	2c 1f	In 1pro 1v
		I see you		2;6	3		E	ENH	1c 2f	2pro 1v
		I want paper		2;6	3		E	ENH	2c 1f	In 1pro 1v

Date	Source	Utterance	Translation	Age	LU	K	Lang	Spoken	Word Types	Parts of Speech
11/25/69	T 10	I want to		2.6	3		E	ENH	1c 2f	1prep 1pro 1v
		I'm going action		2.6	5		E	ENH	2c 1f	1n 1pro 1v
		I'm going action dis	I'm going action this	2.6	6		E	ENH	2c 2f	1n 2pro 1v
		I'm Robocop		2.6	3	3	E	ENH	2c 1f	1n 1pro 1v
		I'm sunk		2.6	3	3	E	ENH	2c 1f	1pro 2v
		Iku zo	I'm going (Emph)	2.6	2		J	JNH	2c	2v
		Is that tight?		2.6	3		E	ENH	2c 1f	1n 1pro 1v
		It's Mama	It hurts Mama	2.6	3		J	JNH	1c 1f	1n 1vblej
		Jun do ne	It's 12 O'clock. Isn't it	2.6	3		J	JNH	2c 1f	1n 1leg 1v
		Jun gette kore	12 do this	2.6	4		J	JNH	2c 1f	1pro 1n 1v
		Ken goes like this		2.6	5		E	ENH	2c 2f	1adv 1n 1pro 1v
		Ken help me		2.6	3		E	ENH	2c 1f	1pro 1n 1v
		Ken wa?	what about ken?	2.6	2		J	JNH	1c 1f	1n 1part
		koko jon	It's here (Emph./dial.)	2.6	2	4	J	JNH	1c 1f	1pro 1v
		kore boat	this boat	2.6	2		EJ	N	1c 1f	1n 1pro
		kore ken	this ken	2.6	2		J	JNH	1c 1f	1pro 1v
		kore Mama	this Mama	2.6	2		J	JNH	1c 1f	1pro 1v
		kore mi ju	this water/kore mizu	2.6	2		J	JNH	1c 1f	1n 1pro
		kore nai	this isn't	2.6	2		J	JNH	1c 1f	1pro 1v
		kore nai?	what's this?	2.6	2	2	J	JNH	2f	1intro 1pro
		kore turtle	this turtle	2.6	2		EJ	N	1c 1f	1n 1pro
		kore gette	do this	2.6	3	4	J	JNH	1c 1f	1pro 1v
		kore yonde	read this	2.6	3		J	JNH	1c 1f	1pro 1v
		kore yonde please	read this please	2.6	4		EJ	N	1c 2f	1re 1pro 1v
		kou itai	thus hurts	2.6	3		J	JNH	2f	1adv 1vblej
		kowachetta ne	It's broken, isn't it	2.6	5		J	JNH	1c 1f	1leg 1v
		ies see Mama	let's see Mama	2.6	3		E	ENH	3c 1f	1n 1pro 2v
		let's go		2.6	3		E	ENH	3c 1f	1n 1pro 2v
		let's go Mama		2.6	4		E	ENH	3c 1f	1n 1pro 2v
		let's go TV		2.6	4	2	E	ENH	3c 1f	1n 1pro 2v
		light on		2.6	2		E	ENH	1c 1f	1n 1prep
		Mama chodai	Mom want	2.6	2		EJ	N	1c 1f	1n 1vblej
		Mama fun		2.6	2		E	ENH	2c	1adv 1n 1v
		Mama help me		2.6	3		E	ENH	2c 1f	1n 1pro
		Mama picture		2.6	2		E	ENH	2c	2n
		Mama tsukete	Mama find	2.6	4		J	JNH	2c	1n 1v
		Mama gette	Mama put it on	2.6	4		J	JNH	2c	1n 1v
		Mama yonde	Mama do	2.6	3		J	JNH	2c	1n 1v
		miru TV	Mama read	2.6	4		J	JNH	2c	1n 1v
		mo hitori	see TV	2.6	2		EJ	N	2c	1n 1v
		Mom some more?	one more (person)	2.6	2		J	JNH	1c 1f	1adv 1n
		my watch		2.6	3		E	ENH	3c	2adv 1v
		ninje turtle		2.6	2		E	ENH	1c 1f	1n 1pro
		no boom boom		2.6	2		E	ENH	2c	2n
		oh I find it		2.6	2		EI	N	2f	1inter 1ono
		oh ite	oh hurts	2.6	4		E	ENH	1c 3f	1inter 2pro 1v
		oh no Mama Robocop		2.6	2		IJ	N	1c 1f	1inter 1v
		oh shashin	oh photograph	2.6	3		E	ENH	2c 1f	1inter 2n
		onaka haiteru	is inside hon stomach	2.6	2		IJ	N	1c 1f	1inter 1n
		open bu please	open the vehicle please	2.6	5		J	JNH	2c 1f	1honor 1n 1v
		oshike	hon urination	2.6	3		EJ	ENH	2c 1f	1re 1n 1v
				2.6	2		J	JNH	1c 1f	1honor 1n

Date	Source	Utterance	Translation	Age	LU	X	Long	Syntax	Word Types	Parts of Speech
11/25/89	T 10	Papa who chu going?		2;6	5		E	ENH	2c 2f	2pro 1v
		picture a car		2;6	3		E	ENH	2c 1f	1ert 2n
		please Mama		2;6	3		E	ENH	1c 1f	1fa 1n
		Robot on yelle	do Poluocop	2;6	3		EJ	Jwh1	2c	1n 1v
		robot here Mama		2;6	3		E	ENH	2c 1f	1adv 2n
		shush traitor		2;6	2	2	E	ENH	1c 1f	1inter 1n
		sixteen yoke Jan	16 here (Emph./dial.)	2;6	3		EJ	N	2c 1f	1adv 1n 1v
		So what?		2;6	1		E	ENH	2f	1adv 1pro
		this one picture		2;6	3		E	ENH	2c 1f	1pro 2n
		tiger shark		2;6	2	6	E	ENH	2c 2n	1n 1v
		tsuketta Mama	Mama used it	2;6	4		J	JNH	2c	1n 1v
		turtle miru	turtle see	2;6	3		EJ	N	2c	1n 1v
		uh oh not here		2;6	2		E	ENH	3f	1adv 1inter 1pro
		want to		2;6	2		E	ENH	1c 1f	1prep 1v
		was in here?	what's in here?	2;6	3	3	E	FNH	1c 3f	1adv 1prep 1pro 1v
		watch dis	watch this	2;6	2		E	ENH	1c 1f	1pro 1v
		What doing?		2;6	3		E	ENH	1c 1f	1pro 1v
		wire wa?	as for the wire?	2;6	2		EJ	Jwh1	1c 1f	1n 1part
		yee Banzi yaru	yee Even will do it	2;6	3		EJ	N	2c 1f	1inter 1n 1v
		yelle yre	do this	2;6	3	2	J	JNH	1c 1f	1prep 1v
		yette Mama	do Mama	2;6	3	3	J	JNH	2c	1n 1v
		you come here		2;6	3		E	ENH	1c 2f	1adv 1pro 1v

APPENDIX C

RULES FOR CALCULATING MEAN LENGTH OF UTTERANCE AND UPPER BOUND

Source: *A First Language*, R. Brown, 1973, Harvard University Press, p. 54.

1. Start with the second page of the transcription unless that page involves a recitation of some kind. In this latter case start with the first recitation-free stretch. Count the first 100 utterances satisfying the following rules.
2. Only fully transcribed utterances are used; none with blanks. Portions of utterances, entered in parentheses to indicate doubtful transcription, are used.
3. Indicate all exact utterance repetitions (marked with a plus sign in the records). Stuttering is marked as repeated efforts at a single word; count the word once in the most complete form produced. In the few cases where a word is produced for emphasis or the like (*no, no, no*) count each occurrence.
4. Do not count such fillers as *mm* or *oh*, but do count *no*, *yeah*, and *hi*.
5. All compound words (two or more free morphemes), proper names, and ritualized reduplications count as single words. Examples: *birthday*, *rackety-boom*, *choo-choo*, *quack-quack*, *night-night*, *pocketbook*, *see saw*. Justification is that there is no evidence that the constituent morphemes function as such for these children.
6. Count as one morpheme all irregular pasts of the verb (*got*, *did*, *went*, *saw*). Justification is that there is no evidence that the child relates these to present forms.
7. Count as one morpheme all diminutives (*doggie*, *mommie*) because these children at least do not seem to use the suffix productively. Diminutives are the standard form used by the child.
8. Count as separate morphemes all auxiliaries (*is*, *have*, *will*, *can*, *must*, *would*). Also all catenatives: *gonna*, *wanna*, *hafta*. These latter counted as separate morphemes rather than as *going to* or *want to* because evidence is that they function so for the children. Count as separate morphemes all

inflections, for example, possessive {s}, plural {s}, third person singular {s}, regular past {d}, progressive {ing}.

9. The range count follows the above rules but is always calculated for the total transcription rather than for 100 utterances.