15. Cross-Linguistic Similarities at Two Stages of Syntactic Development[1]

Melissa F. Bowerman

Do all children, regardless of the language they are acquiring, pass through a similar sequence of developmental stages, each of which is marked by the production of particular kinds of constructions? Samples of early speech from American, Finnish, Samoan, and Luo children are compared in an initial investigation of this question. Extensive similarities are found across languages in the kinds of construction patterns produced at each of two periods of syntactic development, called here "Early Stage I" (mean length of utterance 1.30–1.50 morphemes) and "Late Stage I" (mean length of utterance 1.60–2.00 morphemes). These similarities suggest that there are many commonalities in the developmental order in which children in different linguistic communities learn how to combine words to express various relational concepts.

Introduction

Much recent research on child language has been directed at discovering "universals of language acquisition," or similarities in the way children acquire language regardless of the particular language to which they are exposed. Identifying such universals requires access to language acquisition data from a variety

of languages, to allow aspects of development that are common to all children to be distinguished from similarities that result from exposure to languages with similar structural features.

Until recently, there has been little adequate comparative material. In the last few years, however, relatively detailed reports on the acquisition of several different languages have become available. In examining these data, investigators have become increasingly aware that children in different linguistic communities begin their syntactic careers in a remarkably similar fashion. For example, Slobin (1970), in comparing the early speech of American, German, Russian, Samoan, Luo, and Finnish children, notes that "if you ignore word order, and read through transcriptions of two-word utterances in the various languages we have studied, the utterances read like direct translations of one another. ... There is a great similarity of basic vocabulary and basic meanings conveyed by the word combinations [p. 177]."

As yet, cross-linguistic comparisons of early syntactic development have not been fine-grained enough to answer certain questions. For example, we do not know whether the basic meanings to which Slobin refers are expressed in the early speech of all children, or constitute instead a shared pool of possible meanings which different children draw upon in different ways. A related question, also unexplored, is whether all children, regardless of the language they are acquiring, pass through a similar sequence of developmental stages, each of which is marked by the production of particular kinds of constructions. The existence of such stages would suggest that there is a universal order in which the ability to encode certain conceptual meanings linguistically is acquired.

The following is an initial effort to investigate these questions by making comparisons, where possible, of speech samples from *individual* children, and by distinguishing between samples from children at somewhat different developmental points. Data on the acquisition of four languages are used to arrive at a description of cross-linguistic similarities and differences at two stages of development.

Plan of Analysis

The languages represented in this study are English (data collected by Bloom, 1970; Bowerman, 1973a; Brown, 1970, 1973); Finnish (Bowerman, 1973a); Samoan (Kernan, 1969); and Luo (Blount, 1969). The four languages belong to different language families (Indo-European, Finno-Ugric, Austronesian, and Eastern Sudanic, respectively), and have very different structures. Thus, the following description of cross-linguistic similarities at two periods of development provides material for deductively generating hypotheses about the universal characteristics of child speech at these periods, and about the changes that take place between them.

Recent studies of children learning English have used mean length of utterance

(MLU), counted in morphemes, as a method of matching samples from different children for comparison (e.g., Bloom, 1970; Brown, Cazden, & Bellugi, 1968). Whether similar MLUs mark similar developmental stages in children acquiring different languages has not yet been well explored. Therefore, the non-English samples, which are compared to each other and to the English samples in this study, were not originally matched on the basis of MLU but rather by inspection of their internal characteristics. Interestingly, the MLUs of the samples thus matched are, in fact, similar, which suggests that MLU can be used as a nonlanguage-specific measurement of linguistic development.[2]

The matched samples are divided into two groups representing earlier and later periods of development. These periods are marked by MLU boundaries of approximately 1.30 to 1.50 and approximately 1.60 to 2.00. This places them both within the period Brown (1970, 1973) has termed "Stage I" (MLU boundaries of just over 1.00–2.00), so they are called here "Early Stage I" and "Late Stage I" respectively. The children who are compared to each other at each stage, and relevant information about the samples, are presented in Table 15-1.

The following analysis is based on the assumption that the presence or absence of various construction patterns in a sample, and the relative frequencies with which they occur, can provide information about the order in which children acquire knowledge of how to construct sentences of various kinds.[3] It is possible that the particular set of construction patterns present in a sample might be determined primarily by performance factors such as topic of conversation, and therefore not constitute a fair representation of the child's knowledge of sentence construction. However, a major reason for rejecting random performance factors as an explanation for the characteristics of the samples examined here is that, with a few exceptions, the construction patterns that are infrequent or absent in any one child's sample tend to be infrequent or absent in all the samples.

Another way in which determining order of acquisition from the presence, absence, and relative frequencies of constructions in samples of child speech might be misleading is discussed by Brown *et al.* (1968). These investigators note that if children produced different kinds of constructions with unequal frequencies, the more frequent ones would seem to be acquired earlier even if in fact they were not, because on a probabilistic basis they would be more likely to appear in any particular sample of speech, and would always occur in greater numbers. However,

---

[2]The Luo sample differs from the others, and is less useful for the purposes of this analysis, in that it contains the utterances of several children for whom MLU could not be determined. Blount's earliest sample (9 utterance types from 2 children) and second sample (49 utterance types from 5 children) are here collapsed together and considered with the Early Stage I samples from the other languages because the kinds of constructions involved appear comparable. However, the presence of a greater proportion of three-term strings than in the samples from the other languages suggests that at least some of the children were at a slightly more advanced stage of development.

[3]How this knowledge is related to the development of comprehension or to other behaviors which draw upon underlying knowledge of linguistic structure, or competence, is little understood, and is not investigated in the present study.

TABLE 15-1 THE CHILDREN USED FOR COMPARISON AT TWO STAGES OF DEVELOPMENT

Early Stage I: MLU between approximately 1.30–1.50

Child	Language	MLU	Age	Collection of data	Sample size (total utterance tokens)	Investigator
Seppo	Finnish	1.42	23 months	2 hr, taped over 3 weeks	713	Bowerman (1973a)
Kathryn	English	1.32	21 months	7½ hr, taped in few days	1225	Bloom (1970)
Gia	English	1.34	21 months	7½ hr, taped in few days	1790	Bloom (1970)
Eric	English	1.42	22 months	8½ hr, taped in few days	564	Bloom (1970)
Kendall	English	1.48	23 months	1½ hr, taped in 2 days	713	Bowerman (1973a)
Sipili	Samoan	1.52	30 months	6½ hr, taped over 1 week.	over 850	Kernan (1969)
6 children	Luo	—	19–31 months	Tape recorded	152 (construction tokens only)	Blount (1969)

Late Stage I: MLU between Approximately 1.60 and 2.00

Child	Language	MLU	Age	Collection of data	Sample size (total utterance tokens)	Investigator
Seppo	Finnish	1.81	26 months	1½ hr, taped over 3 weeks	713	Bowerman (1973a)
Rina	Finnish	1.83	25 months	2 hr, taped over 3 weeks	713	Bowerman (1973a)
Eve	English	1.68	18–19 months	3½ hr, taped over 6 weeks	713	Brown (1973)
Sarah	English	1.73	27–28 months	3 hr, taped over 6 weeks	713	Brown (1973)
Adam	English	2.06	27 months	2 hr, taped	713	Brown (1973)
Tofi	Samoan	1.60	26 months	Taped over 1 week	625	Kernan (1969)

systematically unequal frequencies of production and limited sample size are probably not responsible for certain developmental sequences observed in the present study, since several construction patterns which are rare or absent in all the Early Stage I samples are strikingly more frequent in their Late Stage I counterparts, even though sample size is no greater.

Nevertheless, it is often difficult to interpret the significance of differences in the relative frequencies with which utterances representing different construction patterns occur in the samples. It is likely that any pattern that is represented in a sample by many different word combinations was productive (rule-governed) for the child. Patterns represented by few utterances *may* have been productive, but there is also the strong possibility that the utterances were memorized, and do not reflect knowledge of rules for constructing sentences. There is a plausible alternative explanation for those construction patterns that are represented by far more utterances in the samples from Late Stage I than in those from Early Stage I. Utterances of this sort in the early samples may have resulted not from memorization but rather from rules for sentence construction that were in the process of being formulated and were not yet as productive as they would shortly become.

Early Stage I

MAJOR CONSTRUCTION PATTERNS: TWO-TERM STRINGS

In the Early Stage I samples, most utterances are one or two morphemes long. Three-morpheme strings are quite infrequent. The constructions that occur in the various samples are very similar, and most can be classified according to a short listing of structural descriptions (construction patterns), as presented in Table 15—2.[4] The numbers represent frequencies of occurrence.[5]

The following construction patterns occur in every sample:

agent—action. e.g.: *mommy push* (Kathryn); *man dances* (Seppo); *goes Va* (Sipili); *car runs* (Luo).

---

[4]These descriptions are chosen primarily for convenience in data reduction and because the terms are familiar. Since we do not yet know what kinds of structural information children use in producing their utterances, the descriptions may or may not correspond to the form of children's rules (see Bowerman, 1973b; Brown, 1973; for discussion of this problem).

[5]The absolute frequencies in each row are not comparable for several reasons. First, the samples are of different sizes. Second, while the figures for Kendall, Seppo, Sipili, and the Luo children represent utterance *types* only, the figures for Bloom's subjects (Kathryn, Eric, and Gia) represent utterance *tokens*. The absolute frequencies for Bloom's children are thus inflated with respect to those of the other children, but the assumption is that *relative* frequencies are not affected. Finally, the Luo sample is compiled from the constructions of several children (see Footnote 2, page 269). This means that even the relative frequencies in this sample are not comparable to to those in the samples from the individual children, and can only be used as rough indications of what kinds of constructions are common early in the acquisition of Luo.

TABLE 15-2 EARLY STAGE I: MAIN CONSTRUCTION PATTERNS IN FOUR LANGUAGES[a]

Two-term constructions	English Kathryn[b] MLU 1.32	English Gia[b] MLU 1.34	English Eric[b] MLU 1.42	English Kendall MLU 1.48	Finnish Seppo MLU 1.42	Samoan Sipili MLU 1.52	Luo Several Children
Subject–verb:							
agent–action	18	15	(64 I + V[e] and 3 N + V)	27	25	3	5
person-affected–state[c]				1			3
object-involved–verb[d]				2			1
Verb–direct object:							
action–object[f]	39	38	many V + it, 6 V + N	11	5	6	11
state–object							2
Subject–direct object:							
(mostly agent–object)	31	23		5	3		(1 ?)
Object-located–location[g]	3	3		7	7		8
Action or state–location[h]			1	3	1	1	
Demonstrator–object-demonstrated[i]	8	2	4	10	6	28	
Possessor–Possessed[j]	20	12	1	12	4	23	5
Modifier–noun:							
adjective–noun	many	1	4	6	4	1	2
more or *'nother* noun (or verb, adjective)	26	87	12	1			
attributive noun–noun	5	20		(1)			
Hi–noun	5	several					
Negative constructions	14	5	31	5		5	

272

Three-term constructions

Subject–verb–direct object:					
agent–action–object	2(4?)	1[e]	7	7	4
person–affected–state–object	1	1		7	4
Subject–verb–locative:					
agent–action–location		1	4		2
person–affected–state–location	1	1			1
Demonstrator–modifier–object-demonstrated	1		1–2	2	2
Other: action–object–location; state–modifier–location; etc.	2	2	2		1

a All word orders of each construction pattern counted.

b Bloom (1970) does not give the complete samples for Kathryn, Gia, and Eric. The figures presented here are taken from Bloom where given; otherwise they are drawn from Bloom's tables, examples, and grammars.

c Verbs like *want, see, receive, be-sick,* and *know* are classified as "states." The semantic role of the sentence subjects associated with these verbs is called "person affected" (cf. Fillmore's [1968] "dative case").

d The term "object involved" is given here to the subjects of verbs like *fall* and *break*—intransitive (cf. Fillmore (1968) "objective case").

e Eric produced many utterances with a preverbal phonological element, which may have been the pronoun "I." This element also occurred in the context ——V + it or affected" (cf. Fillmore's [1968] "objective case").

N: these strings are classified here as verb–direct object rather than as subject–verb–object strings.

f The semantic functions of direct objects are more varied and harder to characterize semantically than those of subjects. Therefore, the term "object" is used here as a cover term for all direct objects. A finer breakdown would reveal that in all samples, most direct objects function semantically as objects physically acted upon.

g Strings like *duck water, sweater chair.* Strings like *there cow, pillow here,* are classified as "demonstrator–object-demonstrated." Strings with locative particles like *up, down, off,* and *away* occurred in most of the samples, but these are not counted in this table, since the structural relations intended by them seem variable and are often hard to determine. E.g., should *Kendall's shoe off* be considered agent–action (Shoe [came] off), action–object ([I took] shoe off); or object-located–location (Shoe [is now] off)?

h Locatives include both nouns and prolocatives; e.g., *sit pool, sit there.*

i This category corresponds to Brown's (1970, 1973) "nomination" and to Schlesinger's (1971) and Braine's (1971) "ostension." Words like *this, that, here, there,* and—in the Samoan sample—*the* and "sign of nominative" are paired with nouns (and sometimes other words, not counted in this table), with a deictic (pointing out, labeling) semantic function.

j The possessor–possessed category primarily includes possessive adjective + N and N + N strings judged to express a possessive relationship. Also included are the few N + N strings which probably derive from adult models like X has Y rather than from those like X's Y; for example, *Kendall's doggie hole.*

action—object. e.g.: *bite finger* (Kendall); *drives car* (Seppo); *spank me* (Sipili); *eat medicine* (Luo).

possessor—possessed. e.g.: *dolly hat* (Gia); *aunt car* (Seppo); *ball yours* (Sipili); *head mine* (Luo).

demonstrator—object-demonstrated. e.g.: *that candy* (Kendall); *there cow* (both Kendall and Seppo); *ball there, the fan* (Sipili); *she there, it clock* (Luo).

adjective—noun. e.g.: *big bed* (Kendall); *little fish* (Seppo); *children older* (Sipili); *pepper hot* (Luo).

Some of these sentence patterns are more frequent than others, and therefore more surely fully productive. Primary among these are *agent—action* and *action—object*. Subject—verb strings involving nonagentive subjects (with verbs like *want, see, break* [intransitive], and *fall*) do not occur in all the samples and are far rarer where they do occur than are agent—action strings. *Possessor—possessed* strings are frequent in all the samples except Eric's (English). *Demonstrator—object-demonstrated* constructions seem to have been only marginally productive at best for two of the four American children (Eric and Gia), but are frequent in all the other samples.

Adjective—noun combinations (excluding those involving *more* or *'nother*) are present in all the samples, but are infrequent in all except Kathryn's and Kendall's (both English), and therefore may not have been productive yet for most of the children. In contrast, they are much more frequent in all the Late Stage I samples except the Samoan. In all the Finnish and English samples in both Early and Late Stage I, adjectives occur more frequently before the nouns they modify (e.g., *big bed*) than after them in the position of predicate adjectives in adult speech (*hair wet*). This distinction is not relevant for Luo and Samoan, since in those languages adjectives in both syntactic roles occur in postnoun position.

Certain constructions that are very frequent in a few samples do not occur in all the languages nor in all the samples from American children. Thus, they are probably not universal, nor can their presence or absence be related to the particular language being learned. These include:

object-located—location. e.g., *lotion tummy* (Kendall); *car garage* (Seppo); *sweater chair* (Kathryn). Locative utterances like *here cow* and *ball there* occur in every sample except Gia's, but these are classified in the "demonstrator—object demonstrated" category, since their function appears to be identical to that of constructions like *this cow* or *that ball*. What are *not* found in all samples are Noun + Noun constructions expressing a locative relationship.

subject—object (mostly of the subtype *agent—object*), e.g., Kendall's *Kendall spider* ("looked at" implied by context); Seppo's *horsie flower* (*eats* implied by context).

attributive noun modifier—noun. e.g., *animal book* (Gia); *party hat* (Kathryn).

more or *'nother* + N, V, or Adj., and *hi* + N. These two construction patterns are common in samples from many American children, including Bloom's subjects, and have been singled out by Bloom (1970) and Brown (1970, 1973) as expressing

the special relations of "recurrence" and "notice" respectively. However, in the sample of another American child, Kendall, there is only one instance of *more* + N and none of *hi* + N. Neither of these patterns occur at all in the Finnish, Samoan, or Luo samples from either Early or Late Stage I, with the single exception of the often-repeated phrase *more cake* in Rina's Late Stage I Finnish sample.

Certain constructions that one might expect children to be able to produce at this time are very rare or absent in all the samples. For example, *action–location* strings (e.g., Kendall's *sit bed*, Sipili's *go home*, Eric's *go here*) occur in only four of the seven samples, and are represented by only one sentence in three of these. In contrast, action–location strings are relatively common in all the Late Stage I samples. Also generally absent are strings involving *indirect objects* (e.g., *give mommy*), *adverbs* (*push hard, sing loud, go soon*), *predicate nominatives* (excluding those beginning with *this* and *that*) (e.g., *mommy* [is a] *lady, ball* [is a] *toy*), and *instruments* used in the execution of actions (*eat spoon, write pencil, cut knife*). While indirect objects do begin to emerge by Late Stage I, constructions with adverbs, predicate nominatives, and instruments remain extremely rare throughout the entire period. Of all the children studied, only Seppo appears to have combined adverbs productively with other lexical items by Late Stage I.

NEGATION

In analyzing the "earliest stage of two-word utterances" in a variety of languages, Slobin (1968) found that "the universality of negative pivot sentences is notable." The data reviewed here do not support the hypothesis that negative constructions are universally among the first set of productive construction patterns. Elementary negative constructions involving words like *no, not,* and *no more* plus a noun or verb occur in the Samoan sample and all the American samples, but are completely absent from the Finnish and Luo samples. Ervin-Tripp (1973) reports that negative constructions were also absent in the early sign-language combinations of a deaf child. Even among the American children investigated here, evidence for productive syntactic negation in Early Stage I is strong only for Kathryn and Eric. Bloom felt that syntactic negation was only marginal at best for Gia, and its productivity in Kendall's speech is also uncertain. In contrast, negative constructions occur in all the Late Stage I samples and are frequent in most. Thus, acquiring a productive means of making negative constructions may, for many children, be an important development between Early and Late Stage I.

INTERROGATION

One striking difference among samples from different languages involves interrogation. Formally marked yes–no questions were asked by all the children except the Finnish boy, Seppo. Even if Seppo sometimes had the *intention* of asking a question, he lacked a formal means of marking it in his speech, and his utterances were virtually never interpreted as questions by his mother. This difference

between Seppo and the other children stems from differences in the formal devices for marking questions in the languages involved. English, Samoan, and Luo all offer a question intonation that can be superimposed upon an otherwise un-disturbed declarative sentence, and the children learning these languages all took advantage of this device in posing questions. Finnish lacks such an intona-tion, however. Yes—no questions are primarily formed by the addition of an interrogative suffix, either to a single word (e.g., **kissa-ko**? *cat*?) or—in the stylistically neutral form of a sentence—to the verb. In this case, subject and verb are inverted. Neither of the Finnish children acquired these mechanisms throughout Stage I or for a long time thereafter.

GRAMMATICAL MORPHEMES

Another noteworthy difference among the samples from different languages involves the use of grammatical morphemes (functors). It is well documented that the early speech of children learning English consists primarily of nouns, verbs, and adjectives, and lacks grammatical morphemes (see Cazden and Brown, Chap. 17, this volume). Finnish is a more richly inflected language than English, but the speech of the Finnish children in both Early and Late Stage I was also "telegraphic" in just this way. There are certain exceptions to this description for the Samoan and Luo children, however.

In the Luo sample, inflections are affixed to verbs to mark personal pronouns and "it" in the roles of subject and direct object. Since the expression of subject and object relationships does not involve inflection in the three other languages, the Luo children used inflections only to supply syntactic information which the other children could supply without functors. However, personal pronouns were either absent ·or very rare and probably not yet productive in the American and Finnish samples. They occurred productively only as direct objects and as possessives in the Samoan sample.

Certain functors were also used productively by the Samoan child, in the con-struction patterns *the* + Noun, "sign of nominative" + Proper Name or Pronoun, and *and* (*for, with*) + Noun. These patterns do not occur in the Late Stage I sample from another Samoan child, so they may be atypical. Nevertheless, it is interesting to note that two of the patterns, *the* + Noun and "sign of nominative" + Proper Name or Pronoun, correspond in function to the demonstrative constructions of the American, Finnish, and Luo children. The forms such constructions take in child speech seem to be influenced by the way in which parents ask questions about the identity of objects. American parents usually ask *What's this (that)?* and elicit *this (that)* + Noun. Finnish parents more typically ask *What's here (there)?* and receive *here (there)* + Noun in response. The Samoan mother asked *What the thing there?* or *What the name of the thing there?* or "sign of nominative" *Who your father?* and elicited responses like *the* + Noun or "sign of nominative" So'o (a name).

The evidence reviewed here on grammatical morphemes suggests that the

acquisition of inflections and other functors is not as delayed in the speech of all children as it is in that of typical American and Finnish children. However, it is possible that when children in Stage I do use functors, these functors generally mark only semantic or syntactic meanings that are expressed—more usually without the use of functors—in the early speech of all children. The evidence on this matter is not yet clear, however. Counterevidence for the hypothesis is that Burling's (1959) son, in learning Garo, a Tibeto-Burman language, began to add suffixes to verbs to mark meanings such as "future," "past," "present," and "imperative" at the same time as his first productive two-word combinations appeared. These meanings were not formally marked in the constructions of the children whose speech is analyzed here. Data from other languages are needed before we can come to firm conclusions about the role of grammatical morphemes in early child speech.

THREE-TERM CONSTRUCTIONS

Slobin (1970) has noted that a two-word stage of development appears to be universal, suggesting the "maturation of a language acquisition device with a fairly fixed programming span for utterances at the start." The present data support this view, and indicate that continued maturation results in a relaxation of the two-word constraint at about the same point for all children, when the proportion of two-word to one-word utterances in the child's speech has risen above a certain critical level. Three-term strings occur in all the Early Stage I samples, but are quite infrequent. Most three-term construction patterns are represented by so few utterances in each sample that it is impossible to determine whether they were productive yet. In contrast, three-term strings are frequent in all the Late Stage I samples. This suggests that the ability to combine three morphemes productively may emerge at a mean utterance length of about 1.30 to 1.50.[6] This is not predictable a priori, since it is possible to imagine a child whose mean length of utterance slowly climbs towards two morphemes simply because an increasing proportion of his utterances become exactly two morphemes long.

The sequence in which particular kinds of three-term strings emerge is discussed in the following analysis of Late Stage I speech.

Late Stage I

The analysis of Late Stage I Speech is based on samples from two Finnish, one Samoan, and three American children. No Luo data from this period of development are available.

The structural relations that constitute the common core of the Early Stage I

---

[6]The Luo sample cannot be used for this comparison, since it consists of utterances from several children whose MLUs are unknown.

samples continue to be the basis of most Late Stage I constructions. There are few totally new construction patterns. The primary development that distinguishes the two sets of samples is the increased frequency with which the structural relations, which are initially expressed one at a time in two-word construction patterns like agent—action and action—object, are now combined with each other in strings of three words (e.g., agent—action—object). With the exceptions noted above, the addition of obligatory functors lagged in the languages studied here until past Stage I.

The increased length and variety of construction patterns makes a sample-by-sample breakdown of patterns long and involved, so for considerations of brevity, the general lines along which development takes place will be outlined without this aid.

MAJOR CONSTRUCTION PATTERNS: THREE-TERM STRINGS

Two major kinds of three-term strings occur in all the Late Stage I samples. In one, three major constituents are combined, in strings like agent—action—object (e.g., Seppo's *piggy drives bicycle*, Rina's *Rina eats cake*, Tofi's *got-rid-of baby you*, and Sarah's *I ride horsie*); agent—action—location (Seppo's *bunny walk sand*, Tofi's *goes Usu there*, Adam's *tractor go floor*); action—object—location (Tofi's *bring baby there*, Adam's *put truck window*). A new major constituent that functions as indirect object occurs (infrequently) in samples from every language (although not every child), in two- and three-term strings like action—indirect object and action—object—indirect object (e.g., Rina's *give Rina*, Tofi's *bring candy baby*, and Eve's *show me book*). Not every possible combination of three major constituents occurs in every sample, but omissions are not systematic between languages and may reflect limited sample size rather than real differences in ability.

In the second type of three-term string, two-term relations are elaborated by the use of a modified noun where earlier in development only a single noun had occurred. Both adjectives and possessive nouns or pronouns serve as modifiers. The modified noun usually functions as object of the verb or object demonstrated; the modification of agents (or, more broadly, subjects) was common only in Seppo's speech. Compare typical Early Stage I utterances like Seppo's *baby walks, drives car*, and *there train* with their Late Stage I elaborated counterparts, such as Seppo's *big monkey comes, lifts big stone, there little tractor*; Tofi's *give baby* (object) *toy* (modifier) (baby toy = doll); Adam's *see Daddy car*; Eve's *that Mommy soup*; Rina's *here Rina hand*.

The approximately simultaneous emergence of three-term strings of both kinds (three major constituents versus two major constituents, one of which is a modified noun), has led Brown (1973) and Bowerman (1973a) to conclude that the two types of syntactic elaboration are equivalent in cognitive complexity.

SEMANTIC FUNCTIONS OF SENTENCE SUBJECTS

Another development which distinguishes the Late Stage I samples from the earlier ones is the increased number of sentences with subjects that do not function

semantically as *agents*. This change is particularly evident in Seppo's speech. In Seppo's Early Stage I sample, all subjects with main verbs are agents, while by Late Stage I, "persons affected" and "objects involved" (Fillmore's [1968] "dative" and "objective" cases respectively) occasionally function as subjects as well, in utterances like *mouse is-afraid* and *tower falls-down*. There are also a number of nonagentive subjects in the other Finnish child's Late Stage I sample.

No continuous data from one child are available for either English or Samoan, but the existence of the same developmental trend seems likely. The American child Kendall, at MLUs of 1.10 and 1.48, produced none and few nonagentive subjects, respectively. In the Early Stage I samples from Bloom's subjects there are only a few utterances involving nonagentive subjects, with verbs such as *see*, *got*, *want*, and *fit*. In the Late Stage I data from Brown's American subjects, in contrast, nonagentive subjects are relatively common, in utterances like *Adam see that* and *I like jelly*. The Early Stage I Samoan sample contains only three sentence-subjects with main verbs, but these are all agents. The Late Stage I sample from a different Samoan child contains several nonagentive subjects, however.[7]

Elsewhere (Bowerman, 1973a, 1973b), I have proposed that this gradual diversification of the semantic functions performed by sentence subjects may provide a clue to the nature of the structural relationships expressed by children's early constructions. In particular, it suggests that syntactic concepts like "subject" and "predicate"—which some consider to be a part of children's inborn knowledge of language structure (e.g., McNeill, 1970, 1971)—are more abstract and powerful than are needed to account for children's early utterances. Initially, the child may not be seeking the means of expressing relations between subject and predicate, but rather, more concretely, of expressing interactions between semantic concepts like "agent" and "action initiated" or other even less abstract concepts. As the child's experience with various linguistic operations becomes more extensive, and the semantic functions of his subject nouns more varied, he may gradually begin to recognize similarities in the way different semantic concepts are formally dealt with in sentences of different types and to reorganize his knowledge according to more abstract grammatical relations.

WH- QUESTIONS

Wh- questions are very rare in the Early Stage I samples. Those that do occur have the character of memorized routines. In contrast, *Wh-* questions occur in all the Late Stage I samples, although relatively infrequently in most. Simple routines for eliciting labels, such as *that? 'ts'at?*, are present in the three English samples and emerged shortly after Stage I in the Finnish data. They are absent in the Samoan sample. "Where" questions occur in all the samples except Eve's,

---

[7] See Bowerman (1973b) for frequencies of the various kinds of sentence subjects in the different samples.

in simple utterances like Rina's *where cracker?*, Seppo's *where swims?*, Tofi's *where baby?*, and Adam's *where Daddy go?*

NEGATION

As noted above, negative constructions are much more frequent in the Late Stage I samples than in the earlier ones. Typical examples are Rina's *no wolf*, Seppo's *anymore play*, Tofi's *don't be-headstrong*. Negatives are structurally rudimentary compared to the children's affirmative sentences at this time. This supports Bloom's (1970) proposal that syntactic negation does not initially involve simply placing a negative element before or after an otherwise undisturbed affirmative sentence, as in Bellugi's (1967) account, but rather is an integral part of the sentence and has the effect of reducing its potential complexity.

WORD ORDER

Recent evidence on word order in children's early utterances has been discussed extensively elsewhere (e.g., Slobin, 1970, 1973; Ervin-Tripp, 1973; Bowerman, 1973a), so it will be mentioned only briefly here. The general finding is that in all the samples examined in this study, word order corresponds to the dominant (or only) adult order. Those exceptionally ordered strings that do occur in any one sample are usually few compared to the number of appropriately ordered sentences· of the same sentence pattern. The most common recordering, which occurs in samples from every language, involves the placement of the object noun before the verb rather than in its required or more normal position after the verb.

Finnish is relatively flexible with regard to word order compared to the other languages represented here. By the end of Stage I, and probably earlier, the Finnish children had learned acceptable alternative word orders for many construction patterns and used these with approximately the same rank order frequencies as their mothers did.

Summary

The evidence presented in this study suggests that cross-linguistic similarities in early syntactic development are extensive. There appear to be many commonalities in the developmental order in which children in different language communities learn how to combine words to express various relational concepts linguistically. This is evidenced by the presence of similar construction patterns in matched samples of child speech from different languages.

Certain construction patterns occurred in all the Early Stage I speech samples investigated here, and were highly productive for most of the children. These include agent—action, action—object, demonstrator—object-demonstrated, and

possessor—possessed. Other patterns were infrequent or absent in the early samples but became more frequent toward Late Stage I: adjective-noun, action—location, *Wh-* questions, and construction involving indirect objects or nonagentive sentence-subjects.

There was considerable individual variation with respect to still other construction patterns. Subject—object, object-located—location (noun—noun), attributive noun modifier—noun, *hi*—noun, *more* or *'nother*—noun, and negative constructions were used very productively in Early Stage I by some children, but rarely or never by others. These constructions did occur in most of the Late Stage I samples, however. Most differences that occurred among samples from different languages were no greater than those found among samples from the same language. An exception to this was yes—no interrogation. Whether or not children produced questions of this sort was dependent on whether the language being learned provided a questioning intonation that could be superimposed on declarative sentence patterns. The two Finnish children, whose language differs from English, Samoan, and Luo in lacking such an intonation and requiring other formal devices for question marking, were unique among the children studied in not producing yes—no questions until long after Stage I.

The ability to express two structural relations at a time, in three-term strings such as agent—action—object, action—modifier—object, and demonstrator—modifier—object-demonstrated, seems to have emerged at about the same developmental point in all the languages investigated here, and the kinds of three term strings produced were virtually identical across languages.

Construction patterns involving adverbs, instrumentals, and predicate nominatives (excepting those introduced by words like *that*) were absent in all the samples throughout Stage I with only a few exceptions. Unlike the Finnish children's lack of interrogatives, these absences cannot be accounted for purely on grounds of formal complexity, since strings which occurred frequently, such as *eat apple* (action—object), *mommy apple* (agent-object), and *big apple* (modifier—noun) are superficially similar or identical to rare constructions like *cut knife* action—instrument), *mommy lady* (subject—predicate nominative), and *run fast* (verb—adverb).

Although the characteristics of the Early and Late Stage I speech samples from children learning unrelated languages were found in this study to be remarkably similar, it is still too early to conclude that the sequence of development they suggest is universal. Such a conclusion, or its rejection, must await the comparison of these findings with data from children acquiring still other languages.

References

Bellugi, U. The acquisition of negation. Unpublished doctoral dissertation, Harvard University, 1967.

Bloom, L. *Language development: Form and function in emerging grammars.* Cambridge, Mass: MIT Press, 1970.

Blount, B. G. Acquisition of language by Luo children. Unpublished doctoral dissertation, University of California at Berkeley, 1969.

Bowerman, M. *Early syntactic development: A cross-linguistic study with special reference to Finnish.* London & New York: Cambridge Univ. Press, 1973. (a)

Bowerman, M. Structural relationships in children's utterances: syntactic or semantic? in T. E. Moore (ed.), Cognitive development and the acquisition of language. New York: Academic Press, 1973. Pp. 197—213. (b)

Braine, M. D. S. The acquisition of language in infant and child. In C. Reed (Ed.), *The learning of language.* New York: Appleton, 1971. Pp. 7—95.

Brown, R. The first sentences of child and chimpanzee. In *Psycholinguistics: Selected papers by Roger Brown.* New York: Free Press, 1970. Pp. 208—231.

Brown, R. *A first language: The early stages.* Cambridge, Mass.: Harvard Univ. Press, 1973.

Brown, R., Cazden, C., & Bellugi-Klima, U. The child's grammar from I to III. In J. P. Hill (Ed.), *Minnesota symposia on child psychology.* Vol. II. Minneapolis: Univ. of Minnesota Press, 1968. Pp. 28—73.

Burling, R. Language development of a Garo and English speaking child. *Word,* 1959, *15,* 45—68.

Ervin-Tripp, S. Some strategies for the first two years. In T. E. Moore (Ed.), *Cognitive development and the acquisition of language.* New York: Academic Press, 1973. Pp. 261—297.

Fillmore, C. The case for case. In E. Bach & R. T. Harms (Eds.), *Universals in linguistic theory.* New York: Holt, 1968. Pp. 1—88.

Kernan, K. T. The acquisition of language by Samoan children. Unpublished doctoral dissertation, University of California at Berkeley, 1969.

McNeill, D. *The acquisition of language: The study of developmental psycholinguistics.* New York: Harper, 1970.

McNeill D. The capacity for the ontogenesis of grammar. In D. I. Slobin (Ed.), *The ontogenesis of grammar.* New York: Academic Press, 1971. Pp. 17—40.

Schlesinger, I. M. Production of utterances and language acquisition. In D. I. Slobin (Ed.), *The ontogenesis of grammar.* New York: Academic Press, 1971. Pp. 63—101.

Slobin, D. I. Early grammatical development in several languages, with special attention to Soviet research. Working Paper No. 11, Language-Behavior Research Laboratory, Berkeley, California, 1968.

Slobin, D. I. 1970. Universals of grammatical development in children. In W. Levelt & G. B. Flores d'Arcais (Eds.), *Advances in psycholinguistic research.* Amsterdam: North-Holland Publ., 1970. Pp. 174—186.

Slobin, D. I. Cognitive prerequisites for the development of grammar. In C. A. Ferguson & D. I. Slobin, (Eds.), *Studies of child language development.* New York: Holt, 1973. Pp. 175—208.