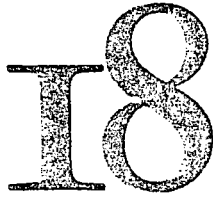


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The Search for Cross-Linguistic Invariants and Variation in Language Development

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The goal of this chapter is to present some of the interesting and important aspects of cross-linguistic comparisons which can be made between the acquisition of Japanese and of English. We do not attempt an exhaustive review of the literature (see, for example, Clancy, in press; Iwata, 1979; Murata, 1968, 1972; Sato, 1978 for reviews of the Japanese literature). We focus instead first on the basic theoretical issues underlying the study of language development in general. Then we selectively describe research that seeks invariants as well as interesting variations in the cross-linguistic circumstances of language development in Japanese and in English.

Among the areas of child psychology, language development is perhaps one of the least understood by those outside the specialty. Developmental psycholinguists frequently find themselves forced to explain the major issues in the field, even to their colleagues in developmental psychology. This confusion exists in part because the questions asked by linguists (for an immediate example, see Kuno, this volume) ordinarily have considerable influence on the questions asked by developmental psycholinguists. In an interdisciplinary volume such as this, then, it behooves us to consider these issues. Therefore, we should ask why developmental psycholinguists study child language in general and cross-linguistic child language acquisition in particular. Such a discussion is a prerequisite for any consideration of specific research findings from comparative studies of the acquisition of Japanese and of English, the topic that comprises the second part of this chapter.

Why Study Language Development?

The basic reasons for studying language development in children have endured throughout the history of child language. Linguists have been fascinated with the developing language of children as it bears on the diachronic question of language history and the synchronic question of the form and function of the linguistic

system. Psychologists have been motivated by their desire to understand the mind, the nature of learning, and the relation between the individual and society. Of prime importance are the issues of the relation between language and thought and between biological and social influences on language. (For brevity, we omit from this discussion the more abstract relation between linguistic and psycholinguistic theories, although serious readers are urged to consult relevant sources, such as Wexler, 1982.)

Language and Thought

One important contemporary issue is that of the mental representation of the form and the function of language and how each element is related to general cognition. Two distinct points of view are associated with two of the most influential theorists of our time: Jean Piaget and Noam Chomsky. Their views differ about the relation between the mental representations of language and of reality. They also differ about whether language is learned and develops according to universal developmental laws or is a matter of the maturation of biologically determined and universal grammatical mechanisms.

According to Piaget, language is a part of general cognition; the same symbolic capacity underlying the development of language also underlies the development of other aspects of thought. Moreover, language development depends upon cognitive development. The meaning of children's language derives from the representation of reality—objects, events, and relations between them developed in infancy. Subsequent development of language continues to depend on the logical development of thought. The existence of language universals (for example, Comrie, 1981) is the reflection of the universality of human development more generally.

In contrast, for Chomsky the syntax of language is an autonomous cognitive system which is biologically determined, with no causal chain existing between it and thought. The child is born with a specifically linguistic mechanism which somehow makes it possible to discover the particular grammar of the language on the basis of only a limited sample of speech from the environment. Language acquisition is a matter of maturation. What is mentally represented is an abstract system of rules and the mechanisms for their discovery. These rules cannot be learned from the environment. They bear no relation to the representation of reality in everyday events, constituting instead a core "universal grammar" which forms a part of an innately determined human mental capacity.

The tension between these two points of view has permeated efforts to explain language development (Piattelli-Palmarini, 1980). In linguistic terms, the question concerns whether the semantic or the formal aspects of language are primary in determining the contrasts children learn. To what extent do children depend on

semantic categories, derived from their understanding of the world, for arriving at syntactic categories? Or are the syntactic categories somehow given as a priori structures, waiting for their maturational time of ascendance? In cognitive terms, the question is whether and how the processes involved in language learning are specific to language or extend as well to other kinds of problem-solving.

Much of the debate concerning the relation between language and thought has centered on the influence of thought on language. However, we have also come to recognize that the course of language acquisition is equally influenced by the nature of the linguistic system the child is learning. The importance of language for language development—or linguistic determinism—has been described in several ways (see Bloom, 1981). According to the theory of generative transformational grammar, language acquisition is determined by the innate linguistic universals which decide basic grammatical categories (Chomsky, 1965). Another view holds that children discover underlying grammatical categories by learning to pay attention to the surface forms of speech which mark the part of speech (such as *-ing* on verbs in English, and *-te-ru* in Japanese). Noticing the endings of words helps the child to discover whether a word names an object or an action (Brown, 1957) and to discover the grammatical categories to which the word belongs (Maratsos, 1982). And according to Slobin (1973), children growing up in different environments are similar both in their cognitive development and in the cognitive strategies they use in language acquisition. Nevertheless, researchers have observed different sequences of development among children learning different languages. These sequences, in which different children learn to express similar ideas about the world, are determined in large part by the accessibility of the surface forms of the language expressing those ideas.

Languages that differ from one another in their surface forms can still be similar in their underlying universal principles. In the same way, the children learning these different languages can also be similar in the cognitive strategies they use in acquisition. Thus, although sequences of acquisition can differ in the particulars of surface form, they may still have much in common. One such example is the similarity in how the verb system influences acquisition of different languages. Verbs are prominent in both Japanese and English. For example, they are very resistant to deletion in adult Japanese (Kuno, 1973) and are the most frequently expressed constituents in Japanese child-language (Clancy; Rispoli, 1984) and in English child-sentences (Bloom, Miller & Hood, 1975). In the acquisition of both languages, pro-verbs (for example, *do* in English, *suru* in Japanese) are ubiquitous in early sentences. Before children acquire a store of more semantically specific verbs, they learn to use pro-forms to maintain the structural integrity of their speech (Bloom, 1981; Rispoli). Thus, the same principles, whether specifically linguistic or more generally cognitive in nature, can influence the acquisition of different languages in similar ways.

Language, the Individual, and Society

Different theorists have conceptualized language differently with respect to its role in the relation between the individual and society. Both Piaget and Chomsky, despite their differences, conceive of language as a faculty of the individual mind. Although neither would deny that social interaction provides the context, each holds that language develops within the individual.

In contrast, others conceive of language as, first and foremost, a social phenomenon. Language is an activity taking place between rather than within individuals and existing in society rather than in the mind. Children acquire words and syntactic structures through social activities of negotiation and interaction with an adult (Bruner, 1983; Dore, 1984; Vygotsky, 1962, 1978). This second theoretical tension concerns the relative contributions of the child and the social context to the process of acquisition. The debate over this is a contemporary version of the nature-nurture issue.

The initial attraction of Chomsky's nativist view of language, on its introduction a generation ago, was the corrective it offered to the environmental emphasis created by the dominance of behaviorism. However, in the last decade, with the increased attention to the importance of interaction between the child and the social context, the balance has tipped once again toward the environment in the effort to explain acquisition. Communication, rather than language structure or cognitive development, has emerged as the salient factor in child language.

However, social interaction and communication do not explain language (Bloom, 1983; Shatz, 1982). Even after we understand the development of communication and the ways children learn to use it in context, we will still need to explain how the forms they use are acquired. Both biology and society will have to be implicated in any theory hoping to explain acquisition to anyone's satisfaction.

We have also become aware that affect—emotions and drives—is another nonlinguistic factor in development. From the beginning of infancy, exchanges between infants and their caregivers are heavily endowed with feeling. Mothers are adept at interpreting and giving meaning to their infants' affective expressions. This is, no doubt, the basis upon which communication develops between them. However, whereas affect is the content of communication in infancy, we still do not know how infants' expression of it and adult responses to it relate to the acquisition of language. We do know that children are very different from one another in the frequency and intensity of their affective displays. During the period of transition from prelinguistic to linguistic forms of communication—roughly the last quarter of the first year and first quarter of the second year— affective and linguistic expression coexist as two parallel and complementary communication systems, differing in form as well as content (Bloom & Capatides, 1985).

Since affective displays and their influence on the communicative interaction between infant and caregiver have only begun to emerge as factors in develop-

ment, we know little about cross-cultural differences in this respect (see Campos et al., this volume). Western research has emphasized the dyadic model of communication, perhaps because it is characteristic of western communication patterns (see, for example, Bruner; Stern, 1977). However, the dyadic model of communication in infancy is hardly universal. In two nonwestern cultures, New Guinea and Samoa, mothers avoid face-to-face contact with their infants. They also refrain from elaborate interpretations of their baby's facial expressions and vocalizations (Ochs and Schieffelin, 1982). Thus, while important for communication in some societies, the relevance of affective displays in infancy for language acquisition is unknown. Since Japanese is a language in which affect plays a prominent role in grammar (for example, see the following discussion and Kuno, this volume, about point of view, camera angle, and empathy in Japanese grammar), comparison of the development of these aspects of language should be promising.

Why Study Language Development Cross-Linguistically?

Cross-linguistic research is conducted for three major reasons related to the goals of developmental psycholinguistics in general. First, the researcher may want to test the claim for universality of a developmental phenomenon which has been formulated on the basis of a single language—typically, English. By looking for invariants in development across languages having different structural characteristics, one can determine whether the principle should be formulated as a universal about all human languages or as specific to the particular configurations of particular languages.

A second reason arises when the findings in a given language may be consistent with a particular theoretical (linguistic) interpretation, but the pattern of results might be confounded with alternative interpretations. The cross-cultural developmental psycholinguist is excited if another language can unconfound the alternative explanations.

A third reason is that the researcher might want to determine which aspects of the process are governed by formal linguistic constraints, and which by other “nonlinguistic” factors, such as the cognitive and the social development of the child. As Slobin (1973, 1982) has pointed out, the pacesetter of language development is best seen as a combination of cognitive development and of the formal difficulty of the linguistic system.

In the remainder of this chapter, we describe some representative efforts which fit into these categories in the comparison of Japanese and English acquisition.

Universality

Take a specific principle formulated on the basis of English. Bever (1970) reported that children acquiring English develop a heuristic strategy based on the regularity of word order-meaning correlation found in English. Since most sentences, such as *Frogs are eating the princes* are semantically of the form AGENT-ACTION-OBJECT, children develop a heuristic taking the sequence NOUN-VERB-NOUN and labeling the corresponding interpretation. This accounts, for example, for the fact that at a certain point in development (somewhere around age 4) children learning English systematically misinterpret passive sentences such as *Frogs are being eaten by the princes* to mean the consumption of royalties by amphibians. This hypothesis can be generally stated as proposing that children will formulate an order-based interpretive heuristic which capitalizes on the basic order of the target language. That hypothesis can be projected to Japanese to test its universality.

Word order in Japanese does not play the kind of key grammatical signalling role it does in English. The basic and preferred word order of Japanese is Subject-Object-Verb (SOV). Postposed particles (markings appearing on the ends of words) serve the key function of signalling whether, for example, a particular noun is the subject or the object of a sentence. Since the predominant order for their target language is AGENT-OBJECT-ACTION, do Japanese children, then, construct an analogous strategy sensitive to word order? Such a finding would amount to a straightforward generalization of Bever's English-based claim. An alternative possibility is that, because Japanese uses particles to indicate the grammatical roles of the words (-*ga* for subject and -*o* for object), children may ignore the order of words in the sentence.

Studies of comprehension and production of sentences containing these particles support neither of these possibilities. Rather, children acquiring Japanese formulate an interpretive strategy taking *both* order and particles into account (Hayashibe, 1975; Hakuta, 1982). That is, they come to expect particular particles to appear in particular locations in the sentence. They take a noun marked by -*ga* to be the agent of the proposition only if it is on the first noun of the sentence. Otherwise, they ignore it. Thus, they correctly interpret *Inu-ga neko-o name-ta* ("the dog licked the cat"), they perform randomly on *Neko-o inu-gan-ame-ta* (the same meaning, but in the Object-Subject-Verb order), and systematically misinterpret *Neko-ga inu-ni name-rare-ta* (the same propositional meaning but in the passive). In the last sentence, they are fooled because the first noun is marked by -*ga*.

The type of approach thus described enables two things. First, it permits a stringent test of a hypothesis. In this instance, it has shown any claim about the primacy of word order in language acquisition cannot be universal. It must be tempered by the extent to which different languages recruit word order as a device to signal grammatical structure. Second, this approach tells us something about

Japanese children's language acquisition: their development is best characterized as the broadening of the expectancy of particles with respect to position. Particles are first bound to specific locations in the sentence. Development then consists of broadening the range of locations where they may be found.

Another area where English-based hypotheses about universality has been tested is sentence verification. Generally speaking, in English, one responds *yes* or *no* to a proposition, depending on whether it is stated negatively or affirmatively. *The ball game was terrific* is responded by *Yes, it was* or *No, it wasn't*. *The ball game wasn't worth going to* is responded by *Yes, it was* or *No, it wasn't*. In Japanese, *yes* (*hai*) or *no* (*ie*) depend on the speaker's agreement with the truth value of the proposition regardless of whether it is stated with a negative or not. An obviously false negative statement such as *President Reagan is not a Republican* in English requires *Yes, he is*, whereas in Japanese it requires *lie, chigai masu*. ("No, it is different.") In response to an obviously true negative statement, such as *Drinking water from the Sumida River is not good for your health*, (prescriptive) English requires *No, it is not*. In contrast, Japanese requires *Hai, sou desu*. ("Yes, it is so.") Thus, the Japanese affirmation indicates agreement with the proposition.

Akiyama (1984) has examined this system in a series of studies from the information-processing perspective (see especially, his review prepared for a Japanese audience in Akiyama, 1981). He has adapted the sentence-verification paradigm (Carpenter & Just, 1975; Clark & Chase, 1972) developed with English-speaking children and applied it to Japanese children. The details of the study are too complicated to address here. However, Akiyama has shown different patterns of response times for English- and Japanese-speaking children which are predictable, in part, by the grammatical differences between the two languages we have outlined. His research points to the value of the strategic use of cross-linguistic comparisons to modify claims about universality.

Other researchers have looked at sentence coordination [sentences conjoined, for example, by "and" (*-te* for verbs, *-to* for nouns)] in Japanese, to test for the generality of models of their development in English (Hakuta, de Villiers & Tager-Flusberg, 1982; Lust & Wakayama, 1979). The theoretical orientations of these studies are different. Lust and Wakayama take a generative grammar perspective and look for the operation of relatively abstract constraints. Hakuta et al. take into account the surface, linear properties of the sentences. However, both find it difficult to extend the English-based model directly onto Japanese.

Unconfounding Hypotheses

We now turn to a case where Japanese can be used to sort out hypotheses that are confounded in English. Research with this goal is a sophisticated variant of the test of universality mentioned previously. The particular example we raise concerns relative clauses. Relative clauses may not, on the surface, appear to be

a thrilling topic of investigation. Yet, in fact, they are centrally important in the description of languages because they are a manifestation of their power to embed one proposition within another.

The literature on relative clauses deals mostly with English. As such, it is filled with studies that argue between two competing explanations for what determines their difficulty of comprehension. One class of explanations is based on an abstract description of the sentence in terms of the grammatical relations. The theories are built on units such as "subject" and "object." These are somewhat "deep" and abstract relations. A second class of explanations is pitched at the more concrete aspects of the sentence. It takes as units the surface, linear sequence of words appearing in the sentence. These two competing classes of theories say different things about why the following sentences differ in their difficulty of comprehension:

1. The philosopher [that the psychologist admired] hated eggs.
2. The philosopher [that admired the psychologist] hated eggs.

For the first class of explanations, a simplified version of the argument goes as follows: what is important is the relationship between the two grammatical roles played by the *head noun* of the relative clause (the philosopher in both sentences). In (1), the head noun is the object within the relative clause (the psychologist admired the philosopher). However, it is the subject in the main sentence (the philosopher hated eggs). In (2), the head noun is the subject both within the relative clause and in the main sentence. Sentence (2) is easier than (1) because the head noun plays the same grammatical role in both its functions in (2), whereas it plays different roles in (1).

The second class of explanations says the following: what is important is the order in which nouns and verbs appear in a linear sequence. The central burden for the listener is to assign appropriate relationships between the nouns and the verbs as they come in. Sentence (1) is more difficult than (2) because two nouns are followed by two successive verbs, and this sequence taxes memory.

English is not a good language for separating out these two classes of explanations because it relies heavily on word order for the determination of grammatical roles. Any explanation based on grammatical roles and their relationships is confounded with a specified linear order of elements in the sentence. This confounding can be sorted out in Japanese because of its flexibility of word order. Thus, a sentence with a given grammatical description can appear in at least two forms:

3. Haitatsuya-ga [keikan-o nagu-tta kosodoro-o] oikake-ta.
deliveryman-subj police-obj hit-past thief-obj chase-past
 4. [Keikan-o nagu-tta kosodoro-o] haitatsuya-ga oikake-ta.
police-obj hit-past thief-obj deliveryman-subj chase-past
-

Experiments with such types of sentences, when performed with Japanese children, show the linear order of the elements, rather than their grammatical descriptions, determines difficulty of comprehension (Hakuta, 1981; Harada et al. 1976). Thus, a sentence of a given grammatical description varies, depending on the order in which the constituents appear. Now, when interpreting back to English, by virtue of having ruled out the class of explanations using only grammatical descriptions as their vocabulary, one can conclude the explanation based on the linear order of constituents is more likely to be correct.

We would like to emphasize that very few studies have explicitly unconfounded hypotheses through cross-linguistic comparison (Bowerman, 1980). It would seem appropriate, for example, for Japanese researchers to use English as a way of unconfounding variables in Japanese, such as the intricate interweaving of linguistic forms with affective expression. We are unaware of any such studies.

Linguistic and Nonlinguistic Factors in Development

We now turn to the third important function of cross-linguistic research: the sorting out of linguistic from nonlinguistic contributions to the patterns of language development. Unlike the functions already discussed, the research reported here has not necessarily been directed toward cross-linguistic comparison. Rather, it is based on observations of independent reports on the acquisition of English and of Japanese. Thus, more rigorous research is needed to substantiate the generalizations offered here.

Furthermore, the further one gets from the relatively sharply defined linguistic issues, the more difficult it becomes to relate particular areas to theoretical concerns. In some ways, these phenomena may be seen as worthy of description and comparison because they are simply interesting, not necessarily because they resolve some theoretical dilemma—cognitive, linguistic, or otherwise. In our discussions with Hiroshi Azuma and Harold Stevenson at the Center for Advanced Study in the Behavioral Sciences, we referred to this aspect of cross-linguistic comparison as the “freak show” approach. Unusualness invites display.

Of particular interest are cases where particular meanings are expressed by children learning one language earlier than children learning another language because of the differences in the grammars of the languages. For example, Japanese divides demonstrative pronouns, adjectives, and adverbs in a more complex way than does English. While English uses *this* and *that*, Japanese brings a third dimension into play, *kore* (“this”), *are* (“that over there, away from both the speaker and listener”), and *sore* (“that over there, next to the listener”). According to Okubo’s (1967) diary study, the child was using the three forms by age 2;6 (pp. 72–73). From such data, one can infer (pending verification through experiments rather than through naturalistic observation alone) that children as young as 2 can make distinctions involving the location of the listener.

In another remarkable early achievement in children's development of Japanese, Clancy reports discriminating use of Japanese sentence-final particles *-yo* and *-ne*, which mark whether the information conveyed in the sentence is old or new to the listener. To illustrate the distinction, imagine two first-time customers in a *fugu* ("globefish," a delicacy which requires careful preparation because its blood is poisonous) restaurant:

- Situation One: Kore, oishii-yo
this, taste good-emph
- Situation Two: Kore, oishii-ne
this, taste good-agr

In the first situation, we can infer the speaker has not yet tasted his stew and that he is transmitting information he knows is privy to him. In the second situation, we infer both speakers have tasted the stew and the speaker is seeking agreement.

Clancy reports routine use of these emphatic forms by children. For example, a child aged 2;4, watching a garbage truck from a window, saw it drive away and reported to adults sitting inside the room: *itchatta-yo*. ("It went away.") Systematic experimental elicitation of these structures would be valuable in determining the productive use of forms that suggest an early form of perspective-shifting in the Japanese child.

Kuno (this volume) suggests that Japanese is constrained by a variable, which he calls an explicitness requirement for source of information. With it, "the speaker can make an affirmative statement about a past, present or future action or state only if he has the firsthand non-hearsay knowledge about it. Otherwise, the speaker must make his source of information explicit." For example, imagine a situation where a child is privy to the knowledge that mother has gone out shopping, but either (1) has direct knowledge of the information, or (2) was told by her father of it. Now her older brother is looking for mother and asks,

mama doko?
mama where

the appropriate reply would be:

- (1) kaimono-ni i-tta
shopping-to go-past
- (2) kaimono-ni i-tta-tte
shopping-to go-past-I hear
-

The *-tte* ending is translated as “I hear” indicating the source of information is indirect. According to Clancy (in press), this form of reportative speech is commonly found in Japanese children before age 2. Her data are consistent with reports from Fujiwara (1977) and Okubo. A child of 1;10 was heard to say the following: *jiichan-ga atsui-tte* (“Grandfather said it’s hot”) (Fujiwara, 1977: p. 142, reported in Clancy).

Reportative functions do not appear in the speech of children acquiring English until much later. This might lead to the conclusion that the cognitive complexity of the meaning contained in such utterances constrains the development of these functions. However, the early appearance of these forms in the speech of Japanese children suggests this would be an erroneous conclusion. Clancy suggests that Japanese children acquire these forms early because they are linguistically simple—they are marked morphologically, rather than syntactically, and they appear at the end of the sentence. He further observes such reportative forms are commonly found in mother’s speech to children. (We must allow for the possibility, however, that they may be embedded in, and constrained by, the conversational context.)

These studies suggest surprisingly precocious developments in language when looked at from the perspective of cognitive complexity. In contrast, there are also cases where it appears that cognitive development serves as the pacesetter of linguistic development. Clancy, for example, notes that concessive conjunctions (*-temo* “even though,” “although”) and conditional conjunctions (*-tara* “when,” “if”) appear quite early in Japanese child speech. This fact is anomalous with reports of English, Italian, German, and Turkish, where they are reportedly late acquisitions (Bloom et al., 1980; Clancy, Jacobsen & Silva, 1976). However, the early appearance of these forms in Japanese appear constrained by the conversational context in which they are used. Clancy finds that, in her data, children and parents use these forms exclusively for the function of conveying permission and prohibition. In other words, they are not used in the full adult range of functions. Japanese children pick up these forms because they are linguistically simple and use them in restricted conversational contexts. Their use in full adult contexts presumably must await appropriate cognitive grasp of the functions signalled therein.

In her comprehensive review of the literature on the acquisition of Japanese, Clancy highlights several additional areas for a fruitful exploration of the relationship between linguistic and nonlinguistic development. For example, the obligatory use of numerical classifiers in Japanese may force the early acquisition of concepts related to object’s shape and class. Clancy also emphasizes the complex sociolinguistic rules of Japanese, including sex and status appropriate forms. In addition, Kuno (this volume) suggests that the use of appropriate forms that take into account the “camera angle” of the speaker might be interesting to study developmentally.

Expanding the Data Base

Data from individuals who serve as the locus of contact between the two languages: namely, bilinguals and second-language learners, should supplement the comparative study of the acquisition of Japanese and English such as we have described. There are now a few studies of Japanese speakers learning English (for example, Hakuta, 1976; Itoh & Hatch, 1977; Milon, 1974). But we know of no studies of the acquisition of Japanese by English speakers.

One of the interesting outcomes of recent research in second-language acquisition is that interference from the native language is quite selective. In many respects, Japanese speakers learning English will resemble speakers of other languages learning English. Still, there are also some characteristics unique to Japanese speakers, attributable to the unique combination of Japanese and English. We propose that studies of second-language learners, both Japanese learning English and speakers of English learning Japanese, will provide glimpses into some profound differences between the mental sets created by the two languages.

To take one example, the English article system for marking definite and indefinite reference (*a* and *the*) presents inordinate difficulty for Japanese speakers. Observers have noted this difficulty even in children as young as 5 (Hakuta). It is not observed in learners of English, whose native language has an article system, such as Spanish (Hakuta and Cancino, 1977). This suggests that, in the course of learning Japanese, the child becomes entrenched in a linguistic system focusing, not on distinctions based on definiteness, but on some other system. We suspect that the Japanese system is based more on the discourse system which keys in on such variables as "theme of the sentence" and "exhaustive listing" (see Kuno, 1972). Somehow entrenchment in this system throws a hurdle in the way of the Japanese learner coming to grips with the English system of definiteness. Going in the other direction, from English to Japanese, common observation of second-language learners of Japanese suggests these learners have difficulty with appropriate markings on nouns with *-wa* (typically a topic marker) and *-ga* (typically a subject marker), which variables of the discourse system seem to govern.

Discourse style is also an area that can be investigated in second-language learners. Japanese speakers, for example, will tend to construct sentences of the following sort: *In America, there are many kinds of people. But Japan there are not many kinds.* Such forms reflect the tendency, based on Japanese to bring the topic of the sentence to the front of the sentence. It is also interesting to note that Japanese speakers avoid the use of relative clauses in English written compositions in comparison to speakers of, say, Arabic and Spanish (Hakuta; Schachter, 1974). At this point, it is unclear whether such characteristic stamping of English patterns by Japanese is attributable to relatively low-level transfer from Japanese—such as the order in which words and phrases are arranged in sentences—or to higher-level differences, such as the ordering of units of thought independent of language.

A study of second-language learners brings sociolinguistics into consideration in a hurry, since errors of this kind are perhaps the most salient made by such subjects. American businessmen who think that they can get their Japanese lessons the easy way, from bar hostesses at night, are in for a shock when they later try to use their learnings. It is evident, although unstudied, that language forms appropriate to the sex and social status of the speaker and the audience present one of the largest stumbling blocks for learners of Japanese.

Conclusion

We have only touched the surface of issues that arise in cross-linguistic comparisons of the acquisition of English and Japanese. While we could not treat the grammatical differences between the two languages in sufficient depth in this chapter, we would like to point to some reasons why Japanese and English are particularly well suited for systematic comparative study.

First, they are unrelated languages. Second, they differ in many characteristics used in classifying languages. For Greenberg (1963), it is basic word order (Japanese is SOV, English is SVO). For Li and Thompson (1976), it is the degree to which the notions of subject and topic are recruited. (Japanese is topic-prominent; English is subject-prominent.) For Chomsky (1982), it is whether or not the structures rely on the configurational order of constituents (English is configurational, whereas Japanese is nonconfigurational.) And although Kuno (this volume) does not relate his analysis to language typology, Japanese is a language whose insightful description requires more use of notions related to the affect of the speakers (such as their point of view, empathy, and camera angle) than does English. Third, both languages have been well described linguistically. Because many of the Japanese linguists have received training in the United States, these descriptions have focused on aspects of language where English and Japanese critically differ (Inoue, 1976; Kunihiro, 1980; Shibatani, 1976). And fourth, there is sufficient contact between speakers of the two languages such that there are Japanese speakers learning English and English speakers learning Japanese. These individuals can provide important clues to the key characteristics on which the languages can be fruitfully compared.

References

- Akiyama, M. (1981). Gengo kakutoku ni okeru nippongo to eigo [Japanese and English language acquisition]. *Jidoo shinrigaku no shimpo (Progress of Child Psychology)*, 283-306.
- . (1984). Are language-acquisition strategies universal? *Developmental Psychology*, 20, 219-228.
- Bever, T. G. (1970). The cognitive basis for linguistic structures. In J. R. Hayes (Ed.), *Cognition and the Development of Language*. New York: John Wiley & Sons.

- Bloom, L. (1981). The importance of language for language development: Linguistic determinism in the 1980s. *Annals of the New York Academy of Sciences*, 379, 160–171.
- . (1983). Review of *Language acquisition: The state of the art*. *Science*, May 15.
- Bloom, L., & Capatides, J. (1985). Development from affective communication in infancy to communication with language. Unpublished manuscript, Teachers College, Columbia University.
- Bloom, L., Lahey, M., Hood, L., Lifter, K., & Fiess, K. (1980). Complex sentences: Acquisition of syntactic connectives and the semantic relations they encode. *Journal of Child Language*, 7, 235–261.
- Bloom, L., Miller, P., & Hood, L. (1975). Variation and reduction as aspects of competence in language development. In A. Pick (Ed.), *Minnesota symposia on child psychology*, Vol. 9. Minneapolis: University of Minnesota Press.
- Bowerman, M. (1980). Cross-cultural perspectives on language development. In H. C. Triandis (Ed.), *Handbook of cross-cultural psychology*, Vol. III. Boston: Allyn & Bacon.
- Brown, R. (1957). Linguistic determinism and part of speech. *Journal of Abnormal and Social Psychology*, 55, 1–5.
- Bruner, J. (1983). *Child's talk: Learning to use language*. New York: W. W. Norton.
- Carpenter, P. & Just, M. A. (1975). Sentence comprehension: A psycholinguistic model of sentence verification. *Psychological Review*, 82, 45–73.
- Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge, Mass.: MIT Press.
- . (1982). *Lectures on government and binding*. Dordrecht, Netherlands: Foris Publications.
- Clancy, P. (in press). The acquisition of Japanese. In D. I. Slobin (Ed.), *The crosslinguistic study of language acquisition*. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Clancy, P., Jacobsen, T. & Silva, N. (1976). The acquisition of conjunction: A cross-linguistic study. *Papers and Reports on Child Language Development*, 12, 71–80.
- Clark, H. H. & Chase, W. G. (1972). On the process of comparing sentences against pictures. *Cognitive Psychology*, 3, 472–517.
- Comrie, B. *Language universals and linguistic typology*. Chicago: University of Chicago Press, 1981.
- Dore, J. (1984). Holophrases revisited: Their “logical” development from dialog. In M. Barrett (Ed.), *Children's single-word speech*. London: John Wiley & Sons.
- Fujiwara, Y. (1977). *Yooji no gengo hyoogen nooryoku no hattatsu [The development of language expression ability of children]*. Hiroshima: Bunka Hyoron Publishing Co.
- Greenberg, J. H. (1963). Some universals of grammar with particular reference to the
-

- order of meaningful elements. In J. H. Greenberg (Ed.), *Universals of language*. Cambridge, Mass.: MIT press.
- Hakuta, K. (1976). A case study of a Japanese child learning English. *Language Learning*, 26, 321–351.
- . (1981). Grammatical description versus configurational arrangement in language acquisition: The case of relative clauses in Japanese. *Cognition*, 9, 197–236.
- . (1982). Interaction between particles and word order in the comprehension and production of simple sentences in Japanese children. *Developmental Psychology*, 18, 62–76.
- Hakuta, K. & Cancino, H. (1977). Trends in second-language-acquisition research. *Harvard Educational Review*, 47, 294–316.
- Hakuta, K., de Villiers, J. & Tager-Flusberg, H. (1982). Sentence coordination in Japanese and English. *Journal of Child Language*, 9, 193–207.
- Harada, S. I., Uyeno, T., Hayashibe, H., & Yamada, H. (1976). On the development of perceptual strategies in children: A case study on the Japanese child's comprehension of relative clause constructions. *Annual Bulletin of the Research Institute Logopedics Phoniatrics. University of Tokyo*, 10, 199–224.
- Hayashibe, H. (1975). Word order and particles: A developmental study in Japanese. *Descriptive and Applied Linguistics*, 8, 1–11.
- Inoue, K. (1976). *Henkei bunpoo to nihon-go [Transformational grammar and Japanese]*. (2 volumes). Tokyo: Taishu-kan.
- Itoh, H. & Hatch, E. (1977). Second language acquisition: A case study. In E. Hatch (Ed.), *Second language acquisition: A book of readings*. Rowley, Mass.: Newbury House Publishers.
- Iwata, J. (1979). Gengo kinoo [Language faculty]. *Jidoo shinrigaku no shimpo [Progress of Child Psychology]*, 121–144.
- Kunihiro, T. (Ed.) (1980). *Nichieigo hikaku kooza [Japanese-English contrast forum]*, Volume 2: *Bunpoo [Grammar]*. Tokyo: Taishukan Shoten.
- Kuno, S. (1972). Functional sentence perspective: A case study from Japanese and English. *Linguistic Inquiry*, 3, 269–320.
- . (1973). *The structure of the Japanese language*. Cambridge, Mass.: MIT Press.
- . (1974). The position of relative clauses and conjunction. *Linguistic Inquiry*, 5, 117–136.
- Li, C. & Thompson, S. (1976). Subject and topic: A new typology of language. In C. Li (Ed.), *Subject and topic*. New York: Academic Press.
- Lust, B. & Wakayama, T. (1979). The structure of coordination in the first language acquisition of Japanese. In F. Eckman & A. Hastings (Eds.), *First and second language learning*. Rowley, Mass.: Newbury House Publishers.

- Maratsos, M. (1982). The child's construction of grammatical categories. In E. Wanner & L. Gleitman (Eds.), *Language acquisition: The state of the art*. New York: Cambridge University Press.
- Milon, J. (1974). The development of negation in English by a second language learner. *TESOL Quarterly*, 8, 137-143.
- Murata, K. (1968). *Yooji no gengo hattatsu [Language development of children]*. Tokyo: Baifukan.
- Murata, K. (1972). *Yoochienki no gengo hattatsu [Language development in the kindergarten period]*. Tokyo: Baifukan.
- Ochs, E., & Schieffelin, B. (1982). Language acquisition and socialization: Three developmental stories. In R. Bauman, & J. Sherzer (Eds.), *Working Papers in Sociolinguistics*. Austin: Southwest Educational Laboratory.
- Okubo, A. (1967). *Yooji gengo no hattatsu [Development of child language]*. Tokyo: Tokyoodoo.
- Piatelli-Palmarini, M. (1980). *Language and learning: The debate between Jean Piaget and Noam Chomsky*. Cambridge, Mass.: Harvard University Press.
- Rispoli, M. (1984). Operating principles and processing constraints in the acquisition of Japanese verb morphology. Paper presented to the International Conference on Child Language, Austin, Texas.
- Sato, I. (1978). Gengo kakutoku [Language acquisition]. *Jidoo shinrigaku no shimpo [Progress of Child Psychology]*, 83-110.
- Schachter, J. (1974). An error in error analysis. *Language Learning*, 24, 205-214.
- Shatz, M. (1982). On mechanisms of language acquisition: Can features of the communicative environment account for development? In E. Wanner & L. Gleitman (Eds.), *Language acquisition: the state of the art*. New York: Cambridge University Press.
- Shibatani, M. (Ed.) (1976). *Syntax and semantics: Japanese generative grammar*. New York: Academic Press.
- Slobin, D. I. (1973). Cognitive prerequisites for the development of grammar. In C. A. Ferguson & D. I. Slobin (Eds.), *Studies of child language development*. New York: Holt, Rinehart and Winston.
- . (1982). Universal and particular in the acquisition of language. In E. Wanner & L. Gleitman (Eds.), *Language acquisition: state of the art*. New York: Cambridge University Press.
- Stern, D. (1977). *The first relationship*. Cambridge, Mass.: Harvard University Press.
- Vygotsky, L. S. (1962). *Thought and language*. Cambridge, Mass.: MIT Press.
- . (1978). *Mind in society*. Cambridge, Mass.: Harvard University Press.
- Wexler, K. (1982). A principle theory for language acquisition. In E. Wanner & L. Gleitman (Eds.), *Language acquisition: State of the art*. New York: Cambridge University Press.