The acquisition of the Japanese imperfective aspect marker:
What do children do when universals and input frequency compete?

The acquisition of tense-aspect markers has been a fertile testing ground for the theory of language acquisition for the past 40 years. One important observation has been that crosslinguistically, children associate past-perfective marking with telic verbs, general imperfecitve marking to atelic verbs, and progressive marking with activity verbs at the early stages of development (Brown, 1973, Bloom et al., 1980, for English; Antinucci & Miller, 1976 for Italian; Stephany, 1981 for Greek; Aksu-Koç, 1988 for Turkish, among others). Although researchers generally agree on this descriptive observation (e.g. Shirai, Slobin & Weist, 1998), the explanation for this observation has been controversial. One major hypothesis appeals to a universal predisposition (e.g., Bickerton, 1981), which presupposes that children have bias in mapping tense-aspect markers with particular semantic content; namely, they look for punctuality/telicity on the one hand, and durativity/atelicity on the other, on which to map morphology. Another major hypothesis appeals to input (the Distributional Bias Hypothesis, e.g. Shirai & Andersen, 1995), which argues that children make particular associations based on input frequency; that is, associations in acquisition is based on skewed input frequency, which they supported by analyzing input data in mother-child interaction in English.

These two competing hypotheses, however, cannot easily be tested because for most languages that have been investigated, universal explanation and input explanation essentially make the same prediction because the telic-perfective/past, atelic-imperfective, and activity-progressive associations are highly frequent universal prototype/default, coming from discourse motivation of conveying temporal information in real time (Andersen & Shirai, 1994; Bohenmeyer & Swift, 2004; Wu, 2002). Therefore, it is essential to investigate a language where two forces – universal and input – compete, not corroborate. Japanese is one such language.

This is because of a unique feature of the Japanese imperfective marker *-te i-*. Although the perfective-imperfective distinction is the most basic aspectual distinction crosslinguistically, Japanese *-te i-* combines these two distinct notions in one form. That is, when it is attached to durative verbs (accomplishment, activity, and state), it denotes progressive meaning, which is a type of imperfective aspect, but when it is attached to achievement verbs, it denotes resultative meaning, which is closely associated with perfective aspect (Shirai, 1998). Further, it has been observed that in adult-adult discourse, the most frequent use of *-te i-* is not progressive meaning or activity verbs, but resultative state meaning denoted by achievement verbs (Shirai & Nishi, 2005). Therefore, the universalist hypothesis predicts that children will associate it with activity verbs to denote progressive meaning, while the distributional bias hypothesis predicts that it will follow frequency and associate it with achievement verbs to denote resultative meaning. Although the previous studies that looked at input frequency to Japanese children (Shirai, 1993, 1998) indicate that mothers used *-te i-* somewhat more frequently with activity verbs, they used the corpora that did not completely recorded adult input. The present study used newly available data on CHILDES (MacWhinney, 2000) from three boys (Hamasaki, 2002; Ishii, 1999; Miyata, 2004) to investigate how children and their caretakers use imperfecitve *–te i-* in their interaction. The results indicate that there is no preponderance of activity verbs and thus progressive meaning (states and accomplishments are very infrequent). For all three children, the use of *-tei-* with achievements is more frequent than with activities (average 66.2% vs. 32.2%). In addition, caretaker speech also showed the same tendency, exhibiting more frequent use of achievements (average 62.4% vs. 32.5%). The results suggest that frequency is more important than universal predisposition in the acquisition of tense-aspect markers, thus supporting the distribution bias hypothesis, and the usage-based model, more generally.

Table 1. The percentage of *-te i-* used with achievement verbs by the children and caretakers (token count)

Hamasaki	pre-emergence (average)	post-emergence					
	2;2 - 2;10	2;11	3;0	3;1	3;2	3;3	3;4
Child (Taro)	N/A	0	100	50	88.9	71.4	0
caretakers	61.8	57.8	62.5	69.2	60.6	78.3	63.2

Ishii	pre-emergence (average)	post-emergence			
	1;5 - 2;1	2;2	2;3	2;4	2;5
Child (Jun)	N/A	50.0	57.1	62.5	68.8
caretakers	52.6	66.7	50.0	57.6	64.3

Miyata	pre-emergence (average)	post-emergence											
	1;3 - 2;0	2;1	2;2	2;3	2;4	2;5	2;6	2;7	2;8	2;9	2;10	2;11	3;0
Child (Ryo)	N/A	100.0	40.0	93.3	75.0	88.9	100.0	81.8	60.4	66.7	83.3	48.3	85.7
caretakers	86.7	43	50	82.4	70	40	90.9	37.5	38.9	71.4	71.4	81.3	100

References

Aksu-Koç, A. (1988). *The acquisition of aspect and modality: The case of past reference in Turkish.* Cambridge: Cambridge University Press.

Andersen, R. W., & Shirai, Y. (1994). Discourse motivations for some cognitive acquisition principles. *Studies in Second Language Acquisition*, *16*, 133-156.

Antinucci, F., & Miller, R. (1976). How children talk about what happened. *Journal of Child Language*, *3*, 169-189.

Bickerton, D. (1981). *Roots of language.* Ann Arbor, MI: Karoma.

Bloom, L., Lifter, K., & Hafitz, J. (1980). Semantics of verbs and the development of verb inflection in child language. *Language*, *56*, 386-412.

Bohnemeyer, J., & Swift, M. (2004). Event realization and default aspect. *Linguistics and Philosophy*, *27*, 263-296.

Brown, R. (1973). *A first language: The early stages.* Cambridge, MA: Harvard University Press.

Hamasaki, N. (2002). The timing shift of two-year-olds' responses to caretakers' yes/no questions. In Y. Shirai, H. Kobayashi, S. Miyata, K. Nakamura, T. Ogura & H. Sirai (Eds.), *Studies in language sciences (2)* (pp. 193-206). Tokyo: Kurosio Publishers.

Ishii, T. (1999). The JUN Corpus, unpublished. Available from http://childes.psy.cmu.edu/data/EastAsian/Japanese/

MacWhinney, B. (2000). The CHILDES project: Tools for analyzing talk. Mahwah, NJ: Erlbaum.

Miyata, S. (2004). Ryo-Corpus. Pittsburgh, PA: TalkBank. 1-59642-056-1.

Shirai, Y. (1993). Inherent aspect and the acquisition of tense/aspect morphology in Japanese. In H. Nakajima & Y. Otsu (Eds.), *Argument structure: Its syntax and acquisition* (pp. 185-211). Tokyo: Kaitakusha.

Shirai, Y. (1998). The emergence of tense-aspect morphology in Japanese: universal disposition? *First Language,18*, 281-310.

Shirai, Y., & Andersen, R. W. (1995). The acquisition of tense-aspect morphology: A prototype account. *Language, 71*, 743-762.

Shirai, Y., & Nishi, Y. (2005). How what we mean impacts how we talk: The Japanese imperfective aspect marker -*teiru* in conversation. In J. Frodesen & C. Holten (Eds.), *The power of context in language learning and teaching* (pp. 39-48). Boston, MA: Thomson Heinle.

Shirai, Y., Slobin, D., & Weist, R. M. (1998). Introduction: The acquisition of tense-aspect morphology. *First Language, 18,* 245-253.

Stephany, U. (1981). Verbal grammar in modern Greek early child language. In P. S. Dale & D. Ingram (Eds.), *Child language: An international perspective* (pp. 45-57). Baltimore, MD: University Park Press.

Wu, R-J. R. (2002). Discourse-pragmatic principles for temporal reference in Mandarin Chinese conversation. *Studies in Language, 26,* 513-541.