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14 The acquisition of modality

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Introduction

Researchers have been interested in the question of when different mood and modal elements are acquired in early childhood in different languages. This interest has stimulated discussion of theoretical issues regarding pragmatic, semantic and syntactic processes in different developmental stages of child language. This chapter is mainly concerned with how early mood/modal elements, along with temporal/aspectual and other functional elements, are acquired in Korean. Other related investigations include S. Choi's (1995) study of epistemic modals in cognitive development and H. Han's research (in this volume) on functional categories in generative grammar.

All inflectional elements, including modals, are acquired rather late – after 2 years of age – in Indo-European languages including English (Radford, 1990). However, in the acquisition of Korean, a verb-final language, sentential endings encoding a variety of moods, sentence types, modal differences, and even politeness are acquired much earlier. This study will investigate in what order these mood/modality indicators are acquired and what aspects of cognitive and linguistic development the data illuminate. Whether functional categories or projections, as elements of universal grammar, can be found in child grammar is also an interesting theoretical question to consider.

This study is based on my longitudinal diary notes on my own children (SK=Suh-Kyung, daughter, and CK=Choon-Kyu, son) from the babbling stage to over 10 years of age. These notes will be regularly compared with diary notes

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from a female child relative (YJ=Yoon-Jung) and an additional male child (H=Hyuki, a colleague's son) for tense/aspect. In the next section an overview of the development of modal and other functional elements in Korean will be presented. Following that, the emergence and stages in the development of mood/modality indicators and their types are observed and discussed in contrast with Indo-European data as appropriate. In the third section, constraints on the order of emergence of moods/modals are treated, as well as the acquisition of negative expressions including negative polarity items, metalinguistic negation and its scope behavior, and the development of tense/aspect. In the final section, concluding remarks are presented.

In the data for this study most mood/modality indicators are acquired from age 1:0 to 2:6. The sentential ending *-e* with request force occurs for the first time one year after birth in one child and one year and three months after birth in another (*i-b-a* 'Look here' and *cwu e¹-b-a* 'Gimme,'). Next, the assertive *-e* appears at the age of 1:4 or 1:10. Right after that a frozen expression ending with the declarative *-ta* occurs; the declarative *-ta* form becomes productive at 1:9. Request seems to be the first illocutionary act that a child acquires as a means of satisfying his/her needs. Next, declarative *-e* (assertion) and *-ta* (declaration) appear, followed by the propositive *-ca* ('let's') (1:9–11) and, finally, the information-seeking, interrogative *-e?* (1:11–2:0).

During the latter part of this period in which the four major types of sentences and their corresponding typical illocutionary acts in Korean are acquired, modality-related endings such as *-ul-kkey* (promise), *-ul-kkeya* (volition or presumption, 'will'), *-ci ma* ('don't'), etc. appear. Misuse of person-deictic orientation is frequent, however, as when the child applies a marker of the speaker's volition to the addressee, for instance. At 1:11, the exclamatory sentential ending *-kwuna* occurs, and at 1:9 or 2:1 the surprise ending *-ney* of unexpected immediate perception appears, as the child develops the ability to express perception and cognition. During the period from 1:0 to 2:6, about 16 mood/modality indicators are found.

The act of quoting someone's utterance occurs rather early, raising the question of how complementizers develop. Direct quotations and the quotative sentential ending *-tay* occur first; the complement clause (quotative) complementizer *-ko* is found much later. Contrary to this, the prenominal relative clause complementizer/nominal *-ke* 'thing' or *-tey* 'place' appears and then disappears as the child's grammar develops into a more mature grammar.

Negation begins to be used with requests to form a negative request (i.e. prohibition) but for some time the correct lexicalized form is employed along

¹ The final ending *-e* varies depending on the preceding verb stem vowel: if the verb stem vowel is a dark vowel (*e*, *wu*, *u*) the ending remains *-e* (a dark vowel), but if the stem vowel is a bright vowel (*a*, *o*) the ending changes to a bright vowel, *-a*, by vowel harmony. The expression *i-b-a* 'Look here' is a form derived from *i* 'this', *po-* 'look', *-a* 'ending' in the following series: *i b-a* ← *i bw-a* ← *i po-a*.

with erroneous forms of negative imperatives (as in *an ka!* 'Not go!' = erroneous, *ha-ci ma!* 'Do not do!' = grammatical). The verb *ha-ta* ('do') is used as an independent heavy verb (pro-verb of any action) very early and then as a light verb (together with a predicate nominal, as in *ssawum ha-ci ma* 'Don't do a fight') as well.

The interactional, social aspect of the child's cognitive development is manifested in the emergence of the polite sentential ending *-yo*. This marker of the speaker's politeness to the addressee occurs as early as 2:0. On the other hand, the subject honorification marker *-si-*, which shows the speaker's respect for the subject referent, occurs at 2:3 in telephone play but does not appear in actual use until very late. In one precocious child, it occurs in a quotation about her grandfather at 2:8 and in talk about her uncle at 2:9. In this particular child, the politeness marker *-yo* occurs at 1:7. The interactional politeness marker addressed to the hearer is more basic and far earlier than the subject honorification marker, which comes right after the verb stem, and is part of the grammatical system (e.g. CK 5:0.18 *appa kippe-ha-shi-ra-ku* 'so that Dad rejoices,' CK 5:4.18 *imo-hako halmeni o-shi-n nal-i-ess-e* 'It was on the day Auntie and Grandma came'). The subject honorification marker typically shows up after 3:0, largely as a result of nursery school education.

The past tense marker occurs at around 1:4; it is noteworthy that children's initial predominant use of the past tense marker is with telic or achievement/accomplishment verbs in Korean, as in other languages. Tense and aspect are more closely interrelated in child grammar than in adult grammar.

How mood/modality indicators emerge

According to Radford (1990), early child English has a lexical category system but does not have a system of functional categories and their grammatical features until around 1:8–1:11. Observe:

- (1) Mommy fit refrigerator (Clair 2:0–2:11, no modal), as a reaction to 'Mommy *won't* fit in the refrigerator'
- (2) Want [teddy drink] (Daniel 1:7) (no infinitival *to*)
- (3) Mummy do it (no inflection)
- (4) Man *no* got here (no *do*-support, pre-predicate Neg)
- (5) Daddy gone (Lack of copula *be*, progressive *be*, perfective *have*)

The inflectional system, as a system of functional categories, includes the above lacking elements; other systems of functional categories include the determiner system and the complementizer system.

In Korean, however, there are morpho-syntactic categories of mood that distinguish sentential types such as declarative, interrogative, imperative and propositive. Even within the declarative type there are different sentential

endings showing different epistemic modalities. Consequently, we need a *semantic/pragmatic* analysis of the relevant illocutionary acts represented by these mood and modality categories in Korean. Although I would prefer to treat *-ul-kkey* [promise] as a promise (mood or sentential type) marker in the **mood** category in adult grammar, I will tentatively place it in **modalities** in child grammar for reasons to be explained shortly.

Order of acquisition of mood/modality and politeness endings

For each of the categories in (6), including moods, modalities, speech level/ reported speech, and tense/aspect/negation/agreement, I introduce the approximate order in which forms in that category are acquired.

- (6) a. Moods: *-e* [request], *-e* [assertion], *-ta* [declarative], *-ca* [propositive], *-e* (*-ni*) [interrogative], *-kwuna* [exclamatory], *-ney* [surprise]
 b. Modalities: *-ci* [supposition], *-nun-te* [inconclusive], *-ul-kkey* [promise], *-ul-lay* [volition], *-ul-kke-ya* [presumption], *-ul-they-ya* [intention], *-an tway* [forbidding], *-eya tway* [obligation], *-mot* [not able], *-an tway* [not done, not possible, not V-ed], *-ul swu iss* [be able to], *-na pa* [conjecture, it seems]
 c. Speech level: *-yo* [politeness], Reported speech: *-tay* [quotation]
 d. Tense: *-ess-* [past], Aspect: *-e iss* [perfective], Negation: *an* [negative], Agreement: *-shi-* [subject honorification]

The originally informal, nonpolite speech level ending *-e* is very common, with one and the same form being used for the different major illocutionary act types of request, assertion and interrogative; however, I have differentiated between these illocutionary act types. All the ending elements in (6b) and *-tay* in (6c) belong to the same informal, nonpolite speech level as *-e* in (6a) but they manifest different modal aspects warranting separate treatment.

Endings involving mood

The sentential endings in (6a) represent the basic sentence (also, illocutionary act) types or moods and they are acquired earlier than other endings. Among the sentential endings, *-ta* (declarative) and *-ca* (propositive) can appear as embedded complement clause endings in adult grammar; *-kwuna* is an exclamatory sentence ending that cannot appear in embedded complement clauses (*-nun-ya* is used as the interrogative complement clause ending but is no longer used as an interrogative main clause ending). The sentential ending of surprise, *-ney*, is not treated properly in existing grammars but is a very important sentential ending in daily conversation.

The ending *-e* has usually been treated as a hybrid outside the regular honorific system in Korean grammar (called *panmal* ‘half speech’) but it has become one of the most productively used endings. It is notable, first of all, that the same ending is used for the three illocutionary acts of request, assertion and interrogative, and that these are acquired in early child Korean.

The request ending -e Here I will consider how the earliest of the sentential endings, *-e* of request, emerges.

- (7) SK [request *-e*]
 1:2.28 Cwe-pw-a. ‘Gimme.’ [*-a* is a variant of *-e*]
 1:4.6 Emma, ili w-a. ‘Mommy, come here.’
- (8) CK [request *-e*]
 1:0.4 I pw-a. ‘Look here.’ [pointing to imitation flowers on the wall]
 1:2.5 Ili w-a. ‘Come here.’
 1:9.25 Appa k-a! ‘Daddy, go!’ Appa kho c-a! ‘Daddy, sleep!’

At the age of one, in the one-word utterance stage, the earliest request utterances ending with *-e* appear before other ending forms occur. In YJ’s data, the request utterance *ppalli wu-a* ‘Come quickly’ occurs at 1:1 and, interestingly, at about 11 months the declarative type of utterance such as *aphu-ta* ‘painful’, *a tte* ‘Oh, hot’, *coh-ta* ‘Nice’ occur (in YJ’s speech, the canonical declarative sentential ending *-ta* occurs slightly earlier than other endings and more frequently than in the speech of SK and CK; this might reflect the influence of the Kyongsang dialect). In YJ’s data, the greetings *pappai* ‘bye-bye’ and *annyeng* ‘bye-bye’ occur at 1:0.

It is natural to expect that the illocutionary act type of request will be the earliest of all illocutionary acts, since the child needs, above all, to get what he/she desires. For example, the utterance *epupa* ‘up we go,’ used by SK at 0:5, is originally a caregiver’s request to the child. The child then uses the same form to make his/her own request. SK’s first words, such as *mamma* ‘food’, *pappa* ‘rice’, *emma* ‘Mommy’, all nouns, were used to get what she desired, in other words, to make a request. The noun *mamma*, which has the original meaning of boiled rice, was used to include boiled rice, side dishes, fruit, cookies, milk and almost all kinds of food. The child’s categories are normally broader than the adult’s. Producing these nouns is a way of asking for these things. SK’s later requests (at 1:2) were made by uttering *na com* ‘Me please’ or *ike com* ‘This, please’ [pointing at something], and subsequently *yak com* ‘Medicine, please.’ The discourse marker of request, *com* ‘please’ (originally from ‘a little’), is employed together with a dative pronoun or direct object noun preceded by a verb stem, without any request sentential ending. Uttering *emma* is also used to call Mom(my), to draw her attention. Of course, nouns are first used for referring to things; requests related to things are made on the basis of this function of nouns.

The imperative ending -era The canonical ending for imperative sentences, *-era*, which is similar to the imperative complement clause ending *-ura-*, occurs occasionally in the parent's speech addressed to the child. Children, however, rarely use this form; only one child, YJ, influenced by the Kyongsang dialect, uses this form in the utterance *ikes cwe-yo sse-la* 'Write, give this' at 1:4.29, addressed inappropriately to his mother (YJ also utters *pap-mu-la* 'Eat' in Kyongsang dialect at 1:1). Notably, the child does not use imperative sentences such as *ili o-ne-la!* or *ili o-n!* (both 'Come here'), which have imperative endings used uniquely by adults when unidirectionally addressing a child or a baby, respectively. Children in this instance do not seem to repeat the parent's speech exactly, contra the input theory.

The assertion ending -e After the *-e* ending of request, the *-e* ending of assertion appears, at approximately 1:4. Observe the data.

- (9) SK [assertion *-e*]
 1:4.23 Papo-y-a. '(You) are a fool.' [when Dad was reading the newspaper, not paying attention to her]
 1:7.21 Papo-y-a, appa. '(You are) a fool, Dad.'
 1:8.2 Mac-e. 'Right.' [pointing at the moon, uttering 'tal,' nodding]
 1:8.18 Aph-e. 'Painful.'
 1:10.3 Ep-e cw-e. 'Carrying on the back.' [looking at a picture in which a rooster carries an apple on his back]
 1:10.25 An-y-a. 'No.'
 1:11.7 Ppay-ss-e. 'Took out.'
 1:11.10 Appa-ka papo-y-a. 'Daddy is a fool.'
 2:0.4 Moll-a. '(I) don't know.'
 2:0.4 Nay kke-y-a. '(It's) mine.'
 2:0.19 Emma cap-ess-e. 'Caught Mommy.' [after catching her, running]
 2:2.20 acwumma sa-cwess-e. 'Aunt bought (it for me).'
- (10) CK [assertion *-e*]
 1:1.24 Aphw-u, 'Painful.'
 1:4.16 A tt-e. (< Ttukewe) 'Ah, hot.'
 1:4.24 Aphe, aphe. 'Painful, painful' [wet diaper]
 1:6.23 Appa yo ay tt-e. '(I) said 'Daddy bye-bye.'
 1:7. 4 Inne wuett-e. 'Doll cried.'

On the other hand, YJ produced the utterances *A! Shyennay* 'Oh, cool' (<*-shiwonha-y*; the *-e* ending of the verb *-ha-*, with *ha-ye* becoming *-hay*) and the possessive *Aapeci-kkeya* '(It's) grandpa's' at 1:2.20, *Chayngphihay* 'dirty' [pointing at a diaper] at 1:3.19, and such expressions of negative volition as *An*

hay '(I) won't (=won't) do,' *An mek-e* '(I) won't eat' and *An ka* '(I) won't go' at 1:3.20. Thus, we can see YJ is far more precocious than the other two children.

SK's utterance *Epe cw-e* 'Carry (me) on (your) back' was originally used as a request; then the same form is used as an assertion to describe a situation. In assertions the ending *-e* is used for the illocutionary act of asserting a state of affairs that the speaker already admitted into his mind and is well cognizant of. This function of the assertion marker is generally corroborated by C. Lee (1991) and S. Choi (1991, 1995). Therefore, as we can see in CK, this form is used particularly for informing the addressee of something and for describing a past event. Depending on different aspects of predicates, however, anything sensory/psychological is given in the present form; it is mainly for informing the addressee of the speaker's present sensory/psychological state. In the case of *A tte* (contracted from *A ttukew-e*) 'Ah, hot', it is shorter than *A ttukep-ta*, the regular declarative form, and is used as a baby talk form by caregivers to warn children of danger, and not just as a young child's spontaneous utterance when touching something hot; it is an expression of an inner representation involving sensation or feeling. The *-e* ending of assertion is also used for (negative) identification (e.g. *Papo-ya* 'a fool,' *Appa ttal ani-ya* 'Not Daddy's daughter'), for the speaker's negative volition (*an mek-e* '(I) don't eat'), for asserting possession (*nay-kke-ya* '(It) is mine'), etc. The present form of a negative predicate is used for expressing the speaker's modality of negative volition, as in *An mek-e* '(I) don't (=won't) eat' [YJ 1:3.20]. Later, the modality of volition *-kess-* 'will', with the first person, is acquired, making *An mek-kess-e* 'I won't eat' possible. When the two different utterance forms are compared, *An mek-e*, with no volition morpheme, sounds more direct and more determined with the first person subject.

The declarative sentential ending form -ta The declarative sentential ending form *-ta* is a canonical ending form for declarative sentences, appearing even in embedded complement clauses, although there are other ending forms for declarative sentences in general. The two most important ending forms for declarative sentences, *-e* and *-ta*, have come to function differently. Observe the following.

- (11) SK [declarative *-ta*]
 1:4.0 Aphu-ta. 'Painful.'
 1:4.6 Pu-ta ... (< *-eps-ta*) 'There's no ...'
 1:4.12 Tay-ss-ta. (< *-Tway-ss-ta*) 'Done.'
 1:5.1 Coh-ta 'OK' [when what he desires is given after 'na-com']
 1:11.7 wa-ss-ta 'Came.' [when crying for Mommy, he hears her coming in]
 2:0.17 Manh-ta ... 'There are many'
 Khu-ta. 'Big.'

- 2:0.26 Mwuwu-ta, mwuwu-ci.' 'It's a radish.'
 2:1.17 Caymi-ss-ta. 'Fun.'
 2:1.18 Ya, ton manh-ta. 'Wow, many bills.'
 2:3.7 Sekyeng-i panci yeki-ss-ta. 'Suh-kyung's ring is here.'
 Sekyeng-i panci yeypu-ta, nemwu yeypu-ta. 'SK's ring is
 pretty, so pretty.'
- (12) CK [declarative -ta]
 1:4.16 Tay-ss-ta. 'Done.' 'Satisfied.'
 1:8.19 Namwu iss-ta. 'There's a tree.'
 Tto namwu iss-ta. 'There's a tree again.'
 1:8.26 Sang iss-ta. 'There's a table.'
 Kom iss-ta. 'There's a bear.'
 1:9.1 Wumme kwungti iss-ta. 'Cows have hips.'
 1:10.23 Awuttu mas iss-ta. 'Yogurt is tasty.'
 1:10.24 Changmwun tteypu-ta. 'The window is pretty.'
 (←yeppu-ta)
 2:0.12 Taxi o-n-ta. 'A taxi is coming.' [When a taxi approaches
 with a honk.]
 2:1.3 Nem-e-cye-ss-ta. 'Fell.' [When he fell on the stairs.]

The declarative sentential ending *-ta* is readily used to express the discovery of a fact. The speaker expresses this judgment upon recognizing that something expected or possible has turned out to be true. Therefore, *-ta* occurs mainly in the description of (non-)existence, coming/arriving, appearance, achievement, etc. Early child Korean predominantly exhibits the present form of the existential/presentational construction, with this ending. Such sensory/psychological predicates as *mas-iss-ta* 'Tasty,' *Caymi-ss-ta* 'Fun,' *Coh-ta* 'Nice,' *Tay-ss-ta* 'Satisfied,' ending with *-ta*, are for positive and desirable states and are employed to express the speaker's state of satisfaction. *Aph-e* 'Painful,' ending with *-e*, appeals more to the hearer and conveys a more lingering effect than the same predicate ending with *-ta*. The slightly earlier occurrence of the assertion *-e* than the declarative *-ta* seems natural, but in some children these endings appear almost simultaneously or in reverse order. In case *-ta* is earlier, the influence of the Kyongsang dialect may be suspected. In YJ, such *-ta* forms as *A coh-ta* [ah good-DEC] 'Ah, nice,' *Ca-n-ta* [sleep-PRES-DEC] 'Sleeping,' *Emma w-ass-ta* 'Mommy has come' occur early, at 1;1; at about 11 months declaratives such as *coh-ta* 'Nice,' *aphu-ta* 'painful' occur, as well as *Mwe ha-no?* 'What are you doing?' *Pap mu-ra* 'Eat meal' in Kyongsang dialect. In general, in the Kyongsang dialect, the *-ta/-sumni-ta* style is predominant and the *-e-yey* polite ending is popular only among women, so the *-e/-e-yo* style is lower in frequency than in Central Korea, where the *-e/-e-yo* style is prevalent among both men and women.

S. Choi (1991) has independently given a good analysis of epistemic modality in sentential endings in Korean. Her intonationally rising *-ta* as an interrogative type does not occur, however, in our children. Another point is that the declarative ending with rising intonation is typically used for boasting. For instance, in example (11), SK's utterance *Sekyengi panci yeppu-ta, nemu yeppu-ta* 'Sekyeng's ring is pretty, really pretty' necessarily has rising intonation on every *-ta*, even though the sentences involved are not questions. In general, with boasting or challenging, the speaker makes a confident declaration about an event or state of affairs related to him/herself, and because s/he usually expects some reaction from the hearer, the intonation of the utterance rises at the end. This new and interesting function of *-ta* is independent of the function involving the speaker's discovery/perception of new things/facts, and cannot be achieved by the *-e* form of assertion. With *-e*, if the intonation does not rise, it conveys an assertion (of what the speaker already has in his/her cognitive representation), and if the intonation does rise, it is a question.

However, it must be noted that *-ta* is different in function not only from *-e* but also from *-ney*, which will be treated later.

The propositive sentential ending -ca The propositive sentential ending *-ca* is acquired later than the above endings. The propositive sentence, ending with *-ca*, is basically for the illocutionary act of making a proposal to the hearer to do something together with the speaker; this constitutes a separate sentential form in Korean, unlike Indo-European languages. Let us take a look at the data.

- (13) SK [propositive *-ca*]
 1:11.16 Po-ca. 'Let's look.'
 1:11.17 Chayk com po-ca. 'Let me take a look at the book, please.'
 2:0.14 Ka-ca. Appa ka-ca. 'Let's go. Daddy, let's go.'
 2:2.23 Cihasil ka-ss-ta o-ca. 'Let's go to the basement and come back.'
 2:2.27 Po-ca, po-ca. 'Let me take a look.'
 Na-to po-ca. Let me take a look, too.'
- (14) CK [propositive *-ca*]
 1:8.14 Ka-ca. 'Let's go.'
 1:8.28 Ppang ppang ka-ca. 'Let's go to the car.'
 2:0.2 Po-ca. Han-pen po-ca. 'Let me take a look.' [As SK takes away the card he was looking at, taking it back quickly]

Although the propositive ending is used mainly to make a proposal for a shared act, it is also widely used to seek permission or cooperation from the hearer for one's own act. This second or derivative kind of illocutionary act,

similar in function to *Let me ...*, is performed by the young child with the same form from the beginning, as in (13) and (14), a usage that becomes solidified in adult grammar (e.g. one gets off the bus by oneself, saying *Nayli-psi-ta* 'Let's get off'). The second illocutionary force is possible because of the felicity conditions involved in the main illocutionary act, i.e. the speaker assumes that s/he will get the hearer's cooperation, etc.

The sentential ending of surprise, -ney The sentential ending of surprise, *-ney*, occurs slightly later than the propositive ending *-ca* (CK 1:9.18, SK 2:1.24 but YJ 1:2.4). The surprise ending *-ney* is used when the speaker has immediately perceived an event or state of affairs that is unexpected or that differs from the expected event or state of affairs, and readily reports it as a surprise. It necessarily has the rising intonation of curiosity at the end. Observe the following.

- (15) SK [surprise *-ney*]
 2:1.24 Eps-ney. 'Oh, (it) is not (there).'
 Eps-e-cye-ss-ney. '(It) has disappeared.'
 Ka-pe-lye-ss-ney. '(It) is gone.'
 2:2.7 Kkamccak nolla-ss-ney. 'I was scared (to death).'
 2:2.7 Cal ha-ney. 'Doing well.'
 2:3.11 Ccokkum iss-ney. '(There's) just a little left.'
 2:3.13 Yekiss-ney. '(It)'s here.'
 An na-wa-ss-ney. '(It wo)n't come out.' [When a toy trumpet
 didn't make a sound.]
 2:3.19 Ai bi eym eps-ney. Eps-e. 'Oh, 'IBM' is not (there). (It) is
 not (there).' [Looking for the 'IBM' ad in *Time* magazine.]
- (16) CK [surprise *-ney*]
 1:9.18 Appakkey (= ice cream) eps-ney. 'Daddy's (ice cream) is
 not (there)!'
 2:1.16 Yeki pwul khye-ss-ney. 'Here the light is on!' [Looking at
 the light]
 2:1.18 Appa cal mek-ney. 'Daddy, you are eating well,
 Kimchi hakwu. with Kimchi.'
- (17) YJ [surprise *-ney*]
 1:2.4 Eps-ney. '(It)'s not (there).'
 An po-i-ney. '(It)'s not visible.'
 Emma wa-ss-ney. 'Mommy came.'
 1:10 A, eti ka-ss-ci? Isangha-ney. 'Ah, where has it gone? Strange.'
 A, an na-o-ney. 'Oh, it's not coming out.'
 1:11 Pol-i ppalkay-cye-ss-ney. '(His/her) cheek has turned red.'
 Nwunkkop-i an ttel-e-cye-ss-ney. 'The sleeper in my eye has
 not been removed.'

In SK, at 2:1.24 the surprise ending *-ney* is already stabilized, so it must have first occurred a few months earlier; in YJ, its first occurrence is as early as 1:2.4. Apparently, *-ney* is acquired between 1:2 and 2:0.

-Ney is used in contexts such as when one does not find something, when something that should be there is missing, and when one encounters an unexpected perfective or progressive state/activity. Thus, its contexts of use are consistent and well-defined, and the ending can be said to involve a clear kind of epistemic modality.

The exclamatory sentential ending -kwuna The exclamatory sentential ending *-kwuna* appears at 1:11 in all three children. The frequency of occurrence is not high. Observe the data.

- (18) SK [exclamatory *-kwuna*]
 1:11.25 Yelsoy-iss-kwuna ... 'The key is (exists) ...'
 2:1.11 Te-ke iss-kwuna ... 'That thing is ...'
 2:3.13 Iccok palle-ss-kwuna. '(You) applied (it) on this side.'
 [when I applied medicine on an itching spot of her body.]
 2:3.19 Ung, kkay-ss-kwuna. 'Yes, (you) woke up.'
- (19) CK [exclamatory *-kwuna*]
 1:11.22 A, iss-kwuna. 'Ah, (there) it is.'
 2:0.1 Nawa-ss-kwuna. '(It) came out.'
- (20) YJ [exclamatory *-kwuna*]
 1:11.15 Elumthong yekiss-kwuna. 'The ice box is here.'

Whereas the surprise ending *-ney* is used to express surprise at an unexpected state of affairs, the exclamatory ending *-kwuna* is to exclaim at finding an expected, positive or agreeable fact. In early child Korean, it often occurs when the child finds something s/he has been looking for.

The interrogative sentential ending -e? The interrogative sentential ending *-e?* is acquired later than request *-e*, assertion *-e*, and declarative *-ta*. An interrogative sentence seeks information about whether a certain proposition is true or not, or about an unknown part of a certain proposition, so knowledge of 'proposition', which is similar to 'declarative sentence', precedes knowledge of 'interrogative sentence.' Therefore, it is natural to expect that a declarative sentence, with no sophisticated modality at the ending, is acquired earlier than an interrogative sentence. Observe the following. (In the following examples, angle brackets indicate *wh*-questions, etc., which end not in *-e*, and parentheses indicate non-typical yes/no question endings. A question ending in *-ni* is abrupt or intimate [addressed to a younger person] and one ending in *-na* is rather casual [addressed to a younger but more mature person].)

198 *Chungmin Lee*

- (21) SK [interrogative -e?]
 2:0.23 Etiss-e? 'Where is (it)?'
 2:1.17 Toycanh-a? 'Doesn't (it) work?' [rhetorical]
 2:0.4 <Ne way wu-ni?> 'Why are you crying? [a rooster asks an apple in a picture]
 2:2.5 <Ike etiss-na?> 'Where is this?'
- (22) CK [interrogative -e?]
 1:9.18 Mwe-y-a? Mwe-y-a? 'What (is it)? What (is it)?'
 1:10.26 Emma pappa ta mek-ess-e? 'Mommy, are you finished with your meal?'
 1:11.0 Sang etiss-e? 'Where's the table?'
 1:11.3 Emma, twu-kay a ttuke? 'Mommy, are the two hot?'
- (23) YJ [interrogative -e?]
 1:1 <Mwe ha-no?> 'What are you doing?' [imitation]
 1:2.0 I ttak-a? 'Do I clean my teeth?'
 1:2.15 (Pang-ey?) 'Into the room?'
 [Pang-ey tul-e-kal-kka?] 'Shall I go into the room?'
 1:3.12 Hakkyo ka? 'Go to school?' (= Are you going to school?)
 1:4.14 Cikum myech si-ya? 'What time is it now?'
 1:4.19 Caymi-ss-e? 'Is it fun?'
 1:4.21 (Enni, kongpwu?) 'Sister, study?' (= Are you studying?)
 1:5.20 Nwukwu-ya? 'Who is (it)?'
 1:6.17 <Mas iss-ni?> 'Is it tasty?'
 1:7.14 (Appa, ike mwe?) 'Daddy, what's this?'
 1:9.8 Thipi an na-o-ci-an-a? '(The) TV is not turned on, is it?'

The interrogative mood indicator *-e?* has a distinctly rising intonation, different from request *-e* and assertion *-e*, so it is clearly distinguished from both. This interrogative ending begins to occur at 1:9 in CK, at 1:2 in YJ, and in general, at about 1:6. Surprisingly, even rhetorical questions are witnessed quite early, as in (22) and (23).

It is possible for certain interrogative utterances other than interrogative sentences, to occur with no verbal endings, as in YJ (23). YJ's directional PP (*pang-ey?*) and the verbal nominal (*kongpwu?*) are examples of this. The input form for the latter example is the verbal noun *kongpwu* 'study' plus an inflected form of the light verb *ha-ta*. Still, the child can isolate the verbal noun for her utterance. How does she know that it can be isolated and is an important form to be employed for her question utterance? The verbal nominal *kongpwu* is more lexical than the light verb *ha-ta*, which is more functional, and the child has employed the former in this case.

Certain interrogative sentences with endings other than *-e?* are also witnessed. Such examples as *mwe ha-no?* (imitation) 'What are you doing?'

(Kyensang dialect), *al-ass-ci?* ‘Got it?’ (1:2), *mamma-hay-kka?* ‘Shall I eat?’, *mac-ci?* ‘Right?’, *eti iss-ci?* ‘Where is it?’ (1:4) occur in YJ. The *-ci* supposition modality form is also employed in declaratives, as will be explained in the next section. The earliest occurrences of this interrogative *-ci?* ending in YJ may only be frozen expressions, imitation-like, and not stabilized, productive forms. Questions with *-ci* sound more mitigated than questions with *-e*, because *-ci* shows the speaker’s affirmatively-biased supposition regarding the proposition in the question. *-Ci* is basically an agreement-seeking or tag-question-like question ending. A *wh*-word question with *-ci* does not show ‘shared knowledge’ but a mitigating attitude of ‘we should know.’

Another important interrogative sentential ending, *-ni(?)*, is also found. This ending is employed when the child addresses a baby, a younger child or an intimate peer. It is frequently used by the parent addressing a child, but not vice versa. And the child seems to grasp the social relations involved in the use of this ending. For instance, SK’s utterance *ne way wu-ni?* ‘Why are you crying?’ at 2:0.4 occurs when she is looking at a picture in which a rooster asks an apple the same question; she was playing the rooster’s role. An animal, doll or any other inanimate being like an apple is apparently felt by the child to be a social inferior. YJ’s early utterances with the same question ending are either such cases or simple repetition/verbal play. For example, looking at a pigeon, YJ says: *say-ya, ne mue ha-no? ili wu-a nol-ca, hakkyo kongpu-ha-ni?* ‘Birds, what are you doing? Come here and let’s play. Are you doing school study?’ (1:7.7). On another occasion, she says (1:8): *Ne pap mek-ess-ni? mas iss-ni?* ‘Are you eating? Is it tasty?’ Her parents and grandparents usually ask her questions with this ending. Initially, the child also addresses her parents with this ending, e.g. *mwe mek-ni?* (1:7.12), and she may have been corrected. In early child Korean, the Kyongsang dialect-influenced child shows far more cases of the *-ni(?)* question ending. In comparison with *-ni(?)*, the *-e?* question ending shows more consideration of the addressee, and is not simply an impolite speech-level ending. In the literature on honorification and speech levels, this point has not been detected. This is why the *-e* form of question, assertion or request is so prevalent in the child’s and even the adolescent’s speech addressed to their parents, particularly their mothers.

The canonical question ending *-nunya?* occurs only in embedded complement clauses; it has become archaic and no longer occurs in the matrix clause. As a result, it does not appear in either child or adult Korean. It occurs only in an old children’s song entitled *santhokki* ‘mountain rabbit,’ which goes *thokki-ya, eti-lul ka-nunya?* ‘Rabbit, where are you going?’ SK, now 12 years old, rightly says that the *-nunya?* question sounds like the speech of the noble class.

The speaker-volitional question ending *-l-kka?* consists of the volition marker *-l/-ul* and the question marker *-kka?*. Volition modality can be dealt with readily. This question ending of speaker-volition occurs in YJ as early as 1:5.18, as

exemplified by *cu-kka?* (←*cwu-l-kka?*) ‘Shall I give?’ SK says: *ike siu-kka?* ‘Shall I wear this?’ (2:2.0) and *ike meku-kka?* ‘Shall I eat this?’ (2:2.11).

There are still other question endings, such as *-na?* and *-nunya?*, to be considered. The *-na?* ending occasionally occurs in child language, e.g. *ike eti iss-na?* ‘Where is this, I wonder?’ (SK: 2:2.5), *emma-ka way acikto an o-sina?* ‘Why is Mommy not coming, I wonder?’ (YJ: 2:7.26). The *-na?* question is rather self-directed or speaker-internal and, as a result, mitigative as a question. The *-nya?* question can be used among close friends; it does not show up in early child Korean, but begins to appear in later childhood.

Thus far, we have seen sentential endings involving the moods request-propositive, declarative-assertive (indicative), interrogative, and exclamatory-surprise, as listed in (6a). These seven mood endings are acquired early and are stable in form and meaning.

Endings involving modality

The endings listed in (6b) above basically involve modality. Let us consider in turn the supposition *-ci* ending and the inconclusive *-(u)ntey* ending, as well as the speaker’s mind-binding or mind-constraining endings such as *-ul-kkey*, *-ul-lay*, *-ul-theyya*, the deontic modality ending *-eya tway*, and the planning/schedule/presumption modality ending *-ul kkeya*. At the same time, the phenomena of mixed modality, misapplication and overextension will be considered.

The supposition -ci ending and the inconclusive -(u)n-tey ending The ending representing the modality of supposition, *-ci*, occurs at around 2:0. In the case of SK, she repeatedly said, *imo-(i)-ci* ‘It’s Mommy’s sister, supposedly’ (2:0.15), after she heard Mommy saying ‘What’s *heysen-a?*’ ‘It’s “Mommy’s sister,” supposedly, You should call her “Aunt” or “Mommy’s sister”.’ (A child should not call an adult by the first name + vocative, as SK had done.) Then, when she was given a doll, she said, *khu-ci* ‘It’s big, supposedly,’ inappropriately. The speaker’s assumption with *-ci* is ‘I suppose/presume *p* with a fair amount of certainty and you won’t object to it’ (this assumption of agreement is also maintained in a question with *-ci*), and in this case SK has not established that kind of background yet. When her father didn’t understand, she said *khu-ta* loudly with the declarative ending. On another occasion when her father asked her, ‘Did you go to the park yesterday?’ she said, *mul pu-ass-ci* ‘I saw water (there), supposedly’ (2:2.19). When her father was wearing a necktie, she said, *appa hakkyo ka-ci* ‘Daddy, you are going to school, supposedly’ (2:2.19). The last two uses of *-ci* are not quite appropriate yet either, but her usage was improving, insofar as it reflected the speaker’s fairly certain affirmation and her assumption that the hearer would agree.

CK starts out with question *-ci?* in utterances like *appa eti-ss-e? uung, appa eti-ss-ci?* 'Where is Daddy? Huh, where is Daddy? (we should know)' [fumbling in Daddy's purse for something] (2:0.28). Question *-ci?* in wh-questions makes the question more interpersonal and mitigative, giving the impression that the speaker is making a proposal seeking an answer that s/he needs, or that the speaker should know the answer and the hearer can help. Another example of *-ci* with CK is indicative: *'yepo' mueya? 'emma' kulayya-ci* 'What's *yepo*? I should say *emma* (2:1.0) [When Daddy was talking to Mommy, approaching her, CK uttered this, after saying *yepo* 'hey']. Here, *-ci* is attached to the preceding deontic modality marker *-eya* [biconditional] and *-ci* adds the meaning 'I suppose.' CK's use of *-ci* in both cases is appropriate and has been stabilized in this usage. YJ repeats Mommy's utterance *al-ass-ci?* 'You should understand' as early as 1:1.20. Next, *tep-ci?* 'Hot, isn't it?' (1:2.20) occurs. This type of yes/no question with *-ci?* is an agreement-seeking question. The speaker already has some supposition regarding the proposition. Similarly, YJ says *caymi iss-ci-yo?* at 1:5.12 and *emma talkyal mek-ess-ci?* at 1:6.24. The yes/no question *-ci?* has a slightly rising and sustained intonation at the end, different from other straight question endings, which have purely rising intonation. In general, the question *-ci?* precedes the indicative *-ci* in acquisition.

The inconclusive ending *-ntey* also occurs at around 2 years of age. For example, CK says *appa kke-ntey!?* 'It's Daddy's, though' [when given a ball-point pen he asked for and a piece of Daddy's letter paper, he was still wondering although his Mommy said it was OK]. SK says *cengmal yeppu-ney!* '(It is) Really pretty-*ney*' [looking at her hat]. This ending *-(u)ntey* used to be a continuative ending followed by an additional sentence but now it is used as the final ending of a sentence as well, as in YJ's: *eti ka-nun ken-tey?* 'Where are you going, though?' [After saying, 'When will you leave, Mommy?' and hearing her reply 'A little later'].

Deontic modality (volition/commitment) markers Let us consider these markers with example utterances. Observe the following:

- (24) *-ul-kkey* 'I'll,' 'promise'
 SK 2:0.5 An hal-kkey. 'I won't do (it).'
 [with 'ha-ci-ma'] 'I promise not to do (it).'
 CK 2:0.28 Emma, Choon-kyu ha-kkey. 'I'll do (it), Mommy.'
 [when Mommy tried to take her hand on the stairs]
 YJ 1:6.13 Hana-man cwu-kkey. 'I'll give you just one.'
 1:7.26 Mwul tte-o-kkey. 'I'll scoop and bring water (for you).'
 1:10.28 Nay-ka kac-ta-nol-kkey. 'I'll bring (it) and put (it) here.'

202 Chungmin Lee

- (25) *-ul-kkeya* ‘be gonna,’ ‘will,’ ‘shall’
- SK 2:0.9 Appa emma kal-kkeya. ‘Daddy (and) Mommy will go.’
- 2:0.19 Emma kathi appa kathi. ‘With Mommy, with Daddy, halmeni kal-kkeya-ka-ca. (we/I)’ll go to Grandma’s.’
- CK 2:0.26 Emma, senphwungki. ‘Mommy, the fan is finished. kkuna-ss-e, tto hal-kkeya. I’m gonna turn it on.’
- 2:2.4 Collil-kkeya. ‘I’m gonna go to bed.’
- YJ 1:7.1 Anc-u-lkkeya. ‘I’m gonna sit.’
- 1:8.26 Caymi eps-ta. Thipi kku-kka? ‘No fun. Shall I turn off (the) TV?’
- An cal-kkeya? Aren’t (you) gonna sleep?’
- 1:9.4 An kal-kkeya. ‘I’m not gonna go.’
- Yak an mek-u-lkkeya. ‘I’m not gonna take medicine.’
- 1:11.5 Manhwa po-lkkeya. ‘I’m gonna watch a cartoon.’

SK’s early utterances using *-ul-kkey* seem to be applied to the addressee as well as speaker, in the sense of forbidding, i.e. controlling the addressee’s volition or will. As a result, it is used interchangeably with *ha-ci ma* ‘Don’t do’. The other children’s use is limited to the speaker’s will to undertake an act in the immediate context; it has the force of the speaker’s firm intent. It has some interactive flavor, but is not necessarily limited to the context of promising in the earliest uses. Later, it narrows down to **promises**, with the future act being believed by the speaker to be in the interest of the addressee. Another promise marker, *-ma*, is typically addressed to a child by an adult; due to the unidirectionality constraint, i.e. adult-to-child but not child-to-adult, it is never used by children. This is an example showing that the **input** hypothesis may not be a good explanation in this particular case and perhaps in general. On the other hand, *-ul-kkeya* is not interactive. The speaker’s attitude to his act is somewhat detached. As a result, this form has developed a future-like meaning, weakening its deontic force; when it is applied to the third person it naturally takes on the epistemic sense of presumption. Most early uses of this form by children are limited to the first person’s act independent of the addressee’s interest. For the first person, this represents planning (cf. Gee & Salvasin, 1985); for the third person, it represents a schedule or presumption based on evidence.

Wells’s (1979, 1985) investigations of modal verbs in English show that within ‘agent-oriented’ modality (Gerhardt, 1991), verbs of ability/inability, i.e. *can/can’t*, occur at 2:3, intention, i.e. *will*, appears at 2:6, and other ordinary and epistemic modals are found starting at 3:3 and are established by 5:0. Shatz and Wilcox’s (1991) limited data show somewhat earlier acquisition of modal verbs of intention, volition/rejection, and inability/ability starting at 1:10; the children in their study used *can* or *will* (or quasi-modals such as *gonna*, *wanna*) for desires at 2:0 and more generally by 2:6. Most agent-oriented modals such as *gonna* and *want* are used in the affirmative; *can*, *will*, and *gonna* are used with

the first person. Negative modals such as *can't* and *won't* express constraints on action or unwillingness to act at the time of speech.

After this, epistemic modals of certainty/uncertainty are slowly acquired, proceeding from certainty to uncertainty with the third person in denoting events. Typically, 2-year-olds learning Turkish acquire the evidential past form (*-miş*) in pretend situations (Stepany, 1986). Modals with complement clauses occur at around 3:6 in English. Explicit but artificial experimental conditions are difficult for children and in the data 4-year-olds are much better than 3-year-olds at understanding tasks involving different epistemic modal markers (Hirst and Weil, 1982; S. Choi 2006). In the experiments of Bassano et al. (1992), epistemic modals of certainty (*je sais que, je suis sûr*) are understood at 4:0 but those expressing uncertainty (*je ne suis pas sûr; je crois*) were not fully understood until 8:0. Coates's (1988) data show that metalinguistic analysis (classification) of the modal system of markers in English, a high level semantic abstraction, is achieved even later.

Next, let us consider the *-ul-lay* ending and the *-ul-theyya* ending, both of which are strictly limited to the first person. Take a look at the following data:

(26) *-ul-lay* 'I'll'

SK 2:3.13 Kkung-e-pe-lye. Naka-l-lay. 'Hang on, I'll go out.'

[preparing to go out with Daddy, meaning 'Let's go out']

CK 2:2.9 Emma, amwukes-twu mek-ul-lay. 'Mommy, I'll eat anything.' [pulling at the fridge]

2:3.28 Choon-kyu chamoy mek-ko cal-lay-yo. 'I'll go to bed after eating melons.'

YJ 1:11.18 Kwukmin hakkyo ka-l-lay. 'I'll go to elementary school.'

2:0.3 Emma ike mek-u-l-lay-yo. 'Mommy, I'll eat this.'

(27) *-ul-theyya* 'I intend to'

SK 2:4.25 Sathang mek-u-l-ltheyya, na-nun. 'I intend to eat cookies.'

YJ 2:6.6 Yoon-chong-ika ta mantu-lthey-nikka, 'I intend to make it all, ne-nun kunyang po-kwu-man iss-e. so you just watch.'

Both forms express the speaker's will, but the *-ul-lay* ending, as in (26), is amiable and child-like and gives the impression of seeking the addressee's approval, whereas the *-ul-theyya* form, as in (27), shows the speaker's determination independent of the addressee's opinion and rarely occurs in child Korean. The former can be used in the interrogative mood to ask about the addressee's will more frequently than the latter, but even the question form of the *-ul-lay* ending does not show up in early child Korean. As questions, the *-ul-lay* form is also more interpersonal than the *-ul-theyya* form. The *-ul-lay* ending in the declarative mood is likely to be addressed to the adult by the child but not the other way around, and the same ending in the interrogative mood is more likely to be addressed to the child by an older person but not the other way around, which seems to be a natural tendency.

Now, let me turn to the last of the modality markers, the deontic modal marker *-eya tway*. Let us first take a look at the data and consider its features.

- (28) *-eya tway* 'must'
- SK 3:2.11 Ppal-aya tway. '() must wash ().' [carrying Daddy's shirts to the washing place]
- CK 2:2.21 Onul nwuna yuchiwen ka-ya tway. 'Today, Sister must go to kindergarten.'
- YJ 2:2.12 Mwul-hako kathi mek-e-ya tway-yo. '(I) must eat (it) with water.'

This explicitly deontic modal comes from the meaning 'OK only if ...' and is implicationally related to forbidding with *-myen an-tway* (not OK if ...), and permission with *-to tway* (OK even if ...) (C. Lee, 1980). The frozen expression of **prohibition** *an tway* is frequently used by parents and occurs much earlier than the positive deontic modal *-eya tway* (which lacks a counterpart in Japanese), as shown in the following data (29a).

- (29) a. *an tway* 'must not; forbidden'
- YJ 1:4.18 An tway. 'Must not.'
- 1:6.1 Son ssis-ess-e An-tway. '(I) washed my hands Must not.'
- 2:0.15 Chokholeys mek-u-myen an tway-yo. Ippal ssek-u-nikka-yo. Chocolate eat-U-if not OK-POL tooth decay-because-POL '(I) must not eat chocolate.' 'It is not OK if I eat chocolate, because of tooth decay.'
- b. *an tway* 'not done, not possible, not V-ed' (inability, failure after trial)
- 2:0.27 [Trying to open the cupboard glass door.]
- Appa, ike hay cwu-sey-yo. Mwun an tway. dad this do for me-POL door not done 'Dad, do this for me. The door is not opening.'
- 2:1.17 Tay-ss-e, tay-ss-e. Kkuth-na-ss-e 'Done, done. Finished.'

The frozen form *an tway* occurs rather early and then the productive complete form *-myen an tway* occurs at 2:0 in YJ. It is interesting to notice that the input usually occurs directed to the second person but the above data show that the child uses the form directed to the first person, which means that the child is aware of its deontic sense, having gone beyond the stage of using the expression in its frozen form and meaning.

The negation of the agent-oriented **ability** sense of *tway* 'can be done' occurs in *an tway* in (29b), rather later. Its positive form now (in (29b)) also has the analytic **ability** sense of 'I could do it,' 'It could be done,' rather than the meaning of 'I am satisfied,' 'OK,' that it has in its very early occurrences, when it is presumably an unanalyzed chunk, *tay-ss-ta*, at 1:4 in (11) and (12).

The very common **ability negation** modal *mot* ‘not able to’ and another **ability/circumstantial possibility** modal construction *-ul swu i-ss-* ‘there is a way of V-ing,’ ‘can’ occur rather late at around or after age two.

- (30) *mot* ‘not able to’
 CK 2:6.13 Mo hay, mok kki-e (trying to insert blocks in Logo)
 can’t do can’t insert
 ‘(I) can’t do (it). (I) can’t insert (it).’
 SK 2:6.9 Cal mot tway-ss-e. Halmeni cenhwa ha-nikka ttan cip
 naw-ass-e
 well not done grandma phone make-as wrong house
 came out
 ‘Not well done (as desired). When I made a call
 to grandma, the wrong house came out (= answered).’
- (31) a. *-ul swu i-ss-* ‘there is a way of V-ing,’ ‘can’
 CK 2:0.28 Emma, cwunkyu ha-kkey ha-l swu iss-e
 Mom CK do-will do-can
 ‘Mom, CK will do it. Can do it.’
 2:3.4 Cwunkyu oll-a ka-l swu iss-e [When Mom tried to
 embrace him]
 CK up go can
 ‘CK can go up.’ (should be *nay-ry-e ka-l swu iss-e* ‘can
 go down’)
- b. *-ul cwul al-* ‘know how to’
 CK 3:6.29 [To the question ‘CK yenge ha-l cwul al-ci?’ (Can you
 speak English?)]
 Ccokkum hay-yo
 ‘I speak a little.’
 CK 7:3.5 Ha-l cwul -ul moru-myense ettekhey ha-nya?
 do-FUT way-ACC not know-and how do-Q
 ‘How do you do (it), not knowing how to do (it)?’
- c. *-nun cwul al-* ‘know that ...’ [epistemic]
 CK 6:3.16 Cangnong-ey iss-nun cwul -un a-nun-tey eti?
 cabinet -in is-REL COMP-TOP know-Inconclusive
 where ‘I know that it is in the cabinet but – where
 (in the cabinet)?’
- d. *ic-e peri-* ‘forget’ [epistemic]
 CK 3.11.29 [Answering ‘Samik aphatu a-ni?’ (Do you know Samik’s
 apartment?)]
 Ani, molla, ic-e peri-ess-e
 ‘No, I don’t know, I forgot. (about the apartment where
 he lived in Korea)

- e. *-na pa* ‘it seems,’ ‘might’ [epistemic]
 CK 2:3.1 Tto ca-na pa (Seeing Dad drowsing again)
 again sleep-it seems
 ‘It appears Daddy is sleeping again.’
 CK 2:6.15 Aphu-e. Nwuna-ka ttayri-ess-na-pa (a little after being hit
 by Sister)
 painful sister-NOM hit-PAST-might
 ‘Painful. It seems Sister hit me.’ (‘It seems that I have a
 pain because Sister hit me’?)
- f. *sayngkak na* ‘it occurs (to me)’ [epistemic]
 CK 3:7.14 [When Mom asked if he saw him throwing a ball not well]
 An po-ass-nun-tey-twu kurekhey sayngkak-na
 (Lit.) ‘Although I didn’t see it, it occurs so (to me).’
 (Pointing to the side of his head with a finger)
 CK 3:7.17 Ke sayngkak-i nathana-ss-e
 that thought-NOM show up-PAST-DEC
 ‘That idea occurred (to me).’
 CK 4:7.29 (blinking his eyes, when he was reminded that he fell off
 the bed at a relative’s in Irvine).
 Ku sayngkak na
 that thought show up
 ‘That idea occurs (to me).’ (= I remember that)
- g. *-n kes kath-ay* ‘it seems like’ [epistemic]
 CK 4:7.17 (After CK’s ‘Who brought this?’ and Dad’s ‘I don’t
 know’)
 Emma-i-n kes kath-ay Cwunkywu-nun emma-i-n kes
 kath-ay
 Mom-be-CMPL-seem like CK-TOP Mom-be-
 CMPL-seem like
 ‘It seems like Mom (did). It seems like Mom (did) to
 CK (me).’

Just like the regular short-form sentential negation *an*, *mot* takes preverbal position and denotes the agent’s ability (or comparative inferiority), as in (30 CK). But in (30 SK), *mot* is used in the circumstantial sense with a non-agent (event) null subject. The frozen construction *-ul swu i-ss-*, on the other hand, takes post-verbal position and denotes either (stage-level) ability, as in (31), or circumstantial possibility. The individual-level ability (procedural knowledge) construction *-ul cwul al-* [know how to] (31b) and a similar construction of epistemic state (factive knowledge/non-factive knowledge (= belief)) *-nun cwul al-* ‘know that ...’ (31c) are acquired quite late, although children understand them earlier. If the latter co-occurs with an ACC-marked complement clause it

is factive, but if it co-occurs with a directional (*-uro*)-marked complement it is non-factive. The epistemic verb *ic-e peri-* 'forget' appears in CK's speech at the end of age 3.

There is also a form that combines deontic modality and epistemic modality, as follows:

- (32) SK 2:4.25 Mwun tat-a-keyss-ta. (<tat-a-ya-keyss-ta)
'I may have to close the door.'

The above combined modal comes from *-eya ha-kess-ta*, the deontic modal *-eya ha* (or *toy*) + the epistemic modal *-kess-*. This combined modality occurs rather early in SK. Here, the epistemic modal has wide scope and occurs closer to the end in this verb-final (or head-final) language. Another example is CK's utterance (2:1.0) *emma kulaya-ci*, in which *-eya (ha)* [deontic] + *-ci* [epistemic] are combined to give the meaning 'I suppose I have to (I should) ...'

Finally, the modal form *-kess-* occurs but its sense is restricted to the epistemic modality of presumption and supposition in early child Korean. Its sense of the first person volition does not occur early. Consider the following:

- (33) *-kess*
SK 2:2.7 Ike mas iss-keyss-ta.
'This would taste good.' [touching fried food]
2:2.9 Nuc-keyss-e-yo?
'Would you be late?' [after Daddy said, 'nuc-keyss-ta']
CK 2:1.5 Mwukewe cwuk-keyss-ta.
'It's so heavy that I would die.'
YJ 1:5.18 Michi-keyss-ta.
'I would get crazy.'

In addition, the interrogative volitional modal form is also acquired at 2. For example, at 2:2.11 SK said, *ike mekukka?* 'Shall I eat this?'; at 1:8.24 YJ said, *tibi kkukka?* 'Shall I turn off the TV?' This form is used to ask the addressee's opinion regarding the speaker's future act, to ask for permission, but it can also be used in monologue, to ask oneself.

The quotation ending -tay This sentence ending is used to quote someone else's speech and has to do with knowledge, information and commitment to truth. Accordingly, it is epistemic with respect to its modality. Take a look at the following data.

- (34) CK 2:2.25 Appa tto hakkyo ka-n-tay.
'Daddy goes to school again, it is said.' [after hearing
Dad say that he goes to school]
2:5.4 Nwuna aphu-tay? 'Does Sister say she is sick?'

- YJ 2:3.1 Ku yengkam i-lay-yo.
'(It is) that old man, it is said.'

This ending, acquired rather late, comes from a complex complement sentence form originally (historically), but an explicit complement sentence is acquired much later than this ending. The sense of quotation is very clear in this ending and, therefore, the speaker is not committed to the truth of the proposition expressed by the sentence. When the speaker (normally the adult) wants to make the proposition casual and to give the impression of indifference to it, this ending can be used, even though it is not a quotation.

Mixed modality and misapplication

There are cases in which epistemic or deontic modal suffixes and endings are erroneously combined to express particular kinds of modality. Also, there are abundant cases in which modals restricted to the first person are applied to other persons. First, observe.

(35) Mixed modality

- a. SK 2:3.13 neme-ci-kess -la [-la is used by the adult to warn the child]
fall-become- may-I'm afraid(I warn you)
'I may fall, I'm afraid.'
- b. appa kathi – sinay ka-l ke-la
dad together downtown go-will- I'm afraid(I warn you)
'With Daddy – I'm gonna go to town'
- c. CK 2:2.21 emma, ceke mekkwu siphe-lay
mommy that eat want will
'I will, wanna, eat.'

(36) Misapplication to the wrong person

- a. SK 2:0.5 an ha-l-kkey [-*lk'ey*, applicable only to the first person]
not do- I promise [SK uses this like *Ha-ci ma* 'Don't do it']
'Don't do it.' [literally, 'I won't (I promise not to) do']
- b. 2:1.26 pay-pul-e – nayil tto cwu-kkey
stomach-full tomorrow again give-I promise
'(I'm) full, I will give (= gimme) (some) tomorrow again.'
- c. 2:3.13 mwukewe – appa-ka tulu-kkey [-*kkey* applicable only to first person]
heavy – Daddy lift I promise [SK applies it to Daddy]
'Heavy. Daddy (= you) lift (it).'
- d. CK 2:1.15 [going to Mommy, when Daddy offered help]
emma ha-k'ey emma ha-k'ey
mommy do-I'll
'Mommy'll do it, Mommy'll do it.'

- e. CK 2:0.16 [when Daddy offered to help CK put on a necktie]
emma ha-llyay
mommy do-I'll
'Mommy'll do it.'
- f. CK 2:1.3 [when Daddy asked, 'Shall I push you?' CK said *an-hay*,
ha-ci ma!
'(I) won't, Stop! (= No!)]
nwuna ha-kkey
sister do-I'll
'You must push sister'
- g. CK 2:2.8 *cwungyu sa-cwu-k'ey*
buy-give-I'll
'You must buy me (CK) (one)' [after Daddy bought an
ice bar]

(37) Overextension

- a. SK 2:0.15 *khu -ci* [when a teddy bear was given, not appropriate]
big supposedly
'It's big, I suppose.'

The above cases of mixed modality and misapplication come from the relatedness between volition, desire and the imperative mood directed to the second person. The imperative mood, with no explicit marking of volition/desire, is acquired early enough, but various markers of deontic modality are not easy to acquire and are confused with the imperative in the meantime. In (35a), the presumptive modal *-kess-* is followed by the modal ending of warning *-ul-la*, a form that should be used only by the adult. In (35b), *-ul ke* is combined with *-ul-la* again. In (35c), the semi-modal *-sip-* 'want' is combined with the volitional modal *-ul-lay*. In (36a), the strong deontic modal ending *-kkey*, which must be applied to the first person, was applied to the second person to convey a negative imperative. (36b) also shows a similar case of misapplication of the speaker deontic modal to the addressee. This is not unnatural, however; even in English, you can find cases like 'You will hand in your papers by tomorrow' in the directive sense. The deontic or binding force of the modals is well understood by the child.

Children normally have broader categories than adults when they acquire words; the examples above might be regarded as instances of this kind of overextension (see further discussion of categories in the conclusion).

Occurrence order constraints, negation, and tense/aspect*Occurrence order constraints*

We need semantic and pragmatic principles as well as functional categories to explain many important aspects of mood and modality. Moods, as basic

illocutionary acts/sentence types, may be more basic, formally at least, than complex kinds and subkinds of modality and are acquired earlier than these, as we have already observed. We cannot arbitrarily assume, however, that there is only one declarative mood ending, often represented by *-ta*. As we have already seen, there are various kinds of epistemic modality differentiated by different endings even within the same declarative (or indicative) mood category. The declarative sentence endings convey various epistemic modal meanings, expressing different perceptual, cognitive statuses with respect to the speaker's knowledge of the relevant events or states of affairs.

As already discussed, the ending *-e* is assertive, representing the speaker's internal judgment, while the ending *-ta* is declarative in the sense that it is used to express the discovery of a fact. The speaker expresses his/her discovery when s/he recognizes that something expected or possible has turned out to be true. Therefore, *-e* mainly occurs in the description of (non-)existence, coming/arriving, appearance, achievement, etc. Early child Korean predominantly exhibits the present form of the existential/presentational construction, using this form.

The surprise sentence ending *-ney*, on the other hand, has a slightly rising intonation, expressing curiosity. This conveys immediate perception of some event or state that is contrary to expectation, and which the speaker readily reports. Immediately after that, the same proposition can be asserted with the assertive ending *-e*. Thus, the sequences in (38) show possible orders and impossible ones. Such discourse constraints are indeed corroborated by acquisition data in (39). Observe:

- (38) a. *eps-ney*, *eps-e* 'It's not there' **eps-e eps-ney*
 b. *eps-ta*, *eps-e*? **eps-e eps-ta*
 c. *eps-kwuna*, *eps-e* **eps-e eps-kwuna*
- (39) a. SK 2:3.19 *ai bi em eps-ney*, *eps-e*
 'There is no 'IBM'-*ney*, no 'IBM'-*e*.'
 b. YJ 2:4.20 *cal hay-ss-ta*, *cal hay-ss-e*
 '(You) did well-*ta*, you did well-*e*.'

The ending of immediate perception, surprise, or discovery (*-ney*, *-ta*, *-kwuna*) must precede the assertive ending (*-e*). The former perceptual or cognitive processes are somehow presupposed for the latter speech act of assertion (reassuring the result or representation of the former). If they were one and the same element, with no difference in epistemic meaning, there would be no order restrictions, only simple repetitions for emphasis. Therefore, we cannot naively assume that there are only big syntactic functional category types of moods such as declarative, interrogative, imperative, propositive, exclamative, and so on. There are more subtle semantic distinctions of modality we must account for. In spoken Korean, *-ta* is for immediate perception (of an expected

event), whereas *-e* is for reassuring. In formal written Korean, only *-ta* is used for description and assertion. Between *-ney* and *-kwuna*, *-ney* is used for a surprise (finding an unexpected state of affairs, and being curious about hearer's reaction) and *-kwuna* is used as an exclamation showing an unexpected, surprising degree of a state or event.

Representing the differences in epistemic modality found in the declarative mood is not an easy task. Mood endings appear at the end of the whole sentence, differentiating various sentence types. If we view a functional category rather than a verb as the head of a sentence (Ahn & Yoon, 1989) (depending on the framework in question), the category of mood might be at the top of the relevant hierarchy. This category, then, can be assigned a mood classificatory feature (more syntactic) together with its internal modal features (more semantic), depending on differences between endings like *-ta* and *-e*. If, however, modal features cannot be merged with the syntactic category label, they must be realized as independent segments, and segmentalized modal features are stronger in meaning than their related mood categories.

Furthermore, the choice of different endings correlates with different aspectual (individual-level vs. stage-level) predicates and further with the choice of Nominative and Topic markers at the beginning of a sentence. For example, the ending *-ney* can appear only with a stage-level predicate and with the Nominative marker (or a null marker or the Contrastive Topic marker *-nun*, but not with the (thematic) Topic marker) in a close interdependence-like agreement.

Negation

The development of the category of negation in Korean is particularly interesting. There are two forms of negation in Korean: long-form negation and short-form negation. They are approximately synonymous. Both forms of negation appear in epistemic [declarative and interrogative] moods but only long-form negation appears in deontic [imperative and propositive] moods in adult Korean. Young children use only short-form negation in assertions and questions. However, for imperatives, there is a stage in which both the short-form negative imperative *An ka!* 'Negative + go!' and the long-form negative imperative *Ka-ci ma!* 'Don't go' occur in child grammar. The short-form negative imperative is impossible in adult Korean. Children use the short-form negative imperative even when they have already acquired the long-form negative imperative. Children may want to have the explicit Neg (*an*) + Verb form rather than the long form with a lexicalized merger (*ma* = *Neg* + *HA*). Observe the following:

- (40) SK
 a. 2:0.5 *Ha-ci ma* 'Don't do'
 b. 2:5.8 *Appa, hakkyo an ka* 'Daddy, don't go to school'

- c. 1:10.25 *Ani-ya* ‘No’
- d. 2:0.4 *Molla* ‘(I) don’t know’
- e. 2:1.19 *Appa ttal ani-ya* ‘(I) am not Daddy’s daughter’

CK

- a. 1:11.14 *Shilh-e* ‘I don’t want to’ (when told to put the foot on the pedal)
- 2:0.16 *Ka-ci ma* ‘Don’t go’
- b. 2:1.18 *An pwul kke-yo* ‘Don’t turn off the light’
- 2:2.11 *Appa kho-ca-ci ma-yo* ‘Daddy, don’t sleep’
- 2:1.4 *Emma, an pi-ka w-a.* ‘Mommy, not it is raining.’
Mal an hay. (lit.) ‘(I) don’t say.’ ‘(I) won’t say.’
- c. 3:7.13 *Appa, ike manici-ci ma.* *Emma ike manici-ci ma. Ta manici-ci ma.*
 Dad this touch don’t Mom this touch don’t all touch-CI don’t!
 ‘Dad, don’t touch this. Mom, don’t touch this.’
 ‘All don’t touch (it).’ ($\forall > \neg$)
- d. 3:5.19 *Ha-l-kke-ya.* I ket ta haku-se. Kongpwu ta an kkutna-ss-e
 do-will this thing all do-after study all not finished
 ‘I’ll do it, after I do all this. Study is not all finished.’ ($\neg > \forall$)
- 3:10.21 *Kun-tey ta an ku-ray-ss-e.* Han kay-man ku-ray-ss-e.
 but all not so said one CL-only so said
 ‘But all didn’t say so. Only one did.’ ($\neg > \forall$) (Said in response to ‘People praised you.’)
- 4:0 *Kun-tey ta al-ci-nun anh-e.* (To ‘CK knows a lot of English.’)
 but all know-CI-CT-not [long-form negation]
 ‘But I don’t know all.’ ($\neg > \forall$)
- e. 4:7.25 *Amwu ket -to ani-ya, Cwunkywu-ya* (To ‘Then, what are you?’)
 anything-even not-be (After Dad’s ‘My rabbit’ and CK’s ‘I’m not.’)
 ‘I’m not anything. (I am) Cwunkywu.’ (NPI)
- f. 5:4.15 *Ssot-un key ani-ra mwut-ess-e*
 pour-REL CMPL not-CNCT touch-PAST-DEC
 ‘I didn’t pour (the water), it touched (my clothes).’
- 4:7.24 *Shin-nun key mwe-ya, kki-nun ke-ci*
 wear-REL CMPL what-be-q insert- REL CMPL-CI
 ‘What’s ‘shin-’ (wear <shoes>)? it is ‘kki-’ (wear <gloves>).’²

² Korean has different specialized ‘wear’ verbs for different body parts: *shin-* is for shoes on feet and *kki-* ‘insert’ is for gloves on hands.

- 2:5.21 Shilh-e. Ccokkum-man an mek-ul-kke-ya (To ‘Eat only a little.’)
 no a little-only not eat-will (akka mek-ess-nun-tey)
 ‘I won’t eat only a little.’ (‘I just ate’ in the sense of ‘I won’t eat at all.’)
- 2:9.3 Kuman kalpi cwu-ci ma (When Mom was cutting ribs)
 stop rib give-don’t
 ‘Don’t give me ribs any more.’ (Error for *Kuman cwu-e* ‘Stop giving’)

YJ’s very early negative utterances (1:3.20) are cases of negative volition, even though their endings are in the declarative *-e* form. Deontic negation more often precedes epistemic negation in acquisition, although certain of YJ’s other very early negative utterances, e.g. *Eps-ne-y* ‘allgone, absent’, *An po-i-ne-y* ‘not seen, invisible’ at 1:2.4 in (17) occur with the surprise ending *-ney*, based on epistemic perception. CK’s utterance in (40CKb) shows that the negative morpheme appears in the initial position of a sentence when it is an unaccusative construction (*pi-ka o-ta* ‘It’s raining’), typically analyzed as having a VP-internal argument, not a VP-external argument or a subject. Children learn unaccusativity this early (see also Snyder, 2002).

S. Choi (1988) classified negation into several types in English, French and Korean. SK’s *Ani-ya* in (40SKc) with an independently occurring *ani* is used to deny the previous proposition. Its equivalent in English and French is *No* and *Non*, respectively. Rejection is expressed by *Shilh-e* from ‘dislike’ in Korean (40CKa), cf. *Je veux pas* ‘I don’t want’ in French. Epistemically, negative knowledge is expressed by *Molla* [← *mot* ‘not able’ + *al-a* ‘know’] ‘(I) don’t know’ in (40SKd), cf. *je sais pas* in French. SK’s play with denial appears as ‘I’m not Daddy’s daughter’ in (40SKe). In (40CKa,b), both the long-form negative imperative and the incorrect short-form negative imperative are shown. In (CKc), the universal quantifier has wide scope over negation (with possible ambiguity) but in (CKd) the scope is reversed and negation has wide scope over the universal quantifier. My claim is that children also show prosodic distinctions reflecting such scope differences in short-form negation and \forall scope interactions: $\forall > \neg$ with a stressed \forall and a falling \neg ; $\neg > \forall$ with CT (Contrastive Topic)-intonation on \forall , affecting \neg . Children may be more sensitive to prosody than adults. Current experimental skills can hardly capture these subtle distinctions (see Han & Lee, 2007). It is significant to observe that the first long-form negation (non-imperative) witnessed is CT-marked, as in *Ta al-ci-nun anh-e* (40CKd). CT generates scalar implicatures of ‘But *q*’ and renders its associated quantifier (\forall here) narrow scope (C. Lee, 2006). CK’s first NPI in the predicative nominal position shows up as late as 4 years old, but NPIs occur some time earlier in

H's speech. (40CKf) includes instances of metalinguistic negation (here, corrections) with *ani-ra* and those without it (the last one shows how the literal utterance is negated). It is difficult for CK to change *chhokkum-man* 'only a little' to *chhokkum-to* 'even a little' in the negative environment. A negative word, *kuman* 'not any more, stop', is erroneously used with negation in (40CKf).

*Reported speech marker -tay and pre-relative head pro-nominals
kes and tey*

The nature of the ending *-tay*, which marks reported speech or hearsay as an evidential marker, originating from a quotation or complement clause with a verb of saying, and the pre-relative head pro-nominals *kes* and *tey*, and possible relations between the S-final marker and the latter must be analyzed appropriately. The ending *-tay* originally comes from a complex S: [x -ka [y -ka -ta]-ko ha-y] 'x says that y Pred,' where the COMP *-ko* deletes first, then *h-* deletes phonologically, with identical vowels *a* in *-ta* and *a* from *ha-* merging (C. Lee, 1990) (in parallel, for imperative S: *-ray* from *-ra-ko ha-y*; propositive S: *-cay* from *-ca-ko ha-y*). Children may not be as analytic as adults initially but they know the subject-person and conceptual constraints on *-tay*.

The pre-relative head element *kes* is also interesting in that it shows the dual nature of the complementizer/nominal functional category, which is used together with the relative head noun for some period in childhood and then abandoned (see Whitman in this volume). Although *kes* has been argued to be definite, and its use by children in the limited acquisition data may happen to be definite, it can be either definite or indefinite, just like a relative head N without a pre-head element. *Kes* has an underspecified pro-head-nominal nature. If the head N is a Theme entity, the pro-head-nominal is *kes* but if it is a Location entity, the pro-head-nominal is *tey* 'place,' which has not been observed in the literature. It is witnessed in CK's utterances, as follows:

- (41) Cwunkywu eckkey ka po-n *tey* hakkyo/? (to Dad's reply, 'UCLA')
CK yesterday go try-REL place school (CK 2:6.26)
'The school ['place which' = where] CK visited yesterday?'
(42) Hoik-i ka -nun *tey* phakhu? (to SK's reply, 'Overland Park')
(CK 2:8.16)
H go-REL place school
'The park where H goes?'

At the same stage, CK uses *tey* as a relative head noun referring to a specific place name, as in *Mwusun pyengwon?* CK *ka-ss-ten tey?* 'What hospital? The place where CK went?' (CK 3:3.16). He also uses *kes* as a relative head noun, as

in *Unhey cip-eyse mek-ess-ten ke(s)* ‘The thing (we) ate at Unhey’s’ (CK 3:3.15). Later, *kes* and *tey* disappear from the pre-head position of more specific head nouns.

Tense/aspect

As for tense/aspect, the present tense marker *-nun*, covering the temporal range of narrow and extended speech time including the present progressive, rarely occurs in child Korean because most sentences end in *-e*, the half-speech (no full ending) informal non-polite form, and *-e* cannot occur with the overt present tense marker *-nun*. Before *-e*, the present tense marker is a null form, as in present predicative adjectivals. With the declarative ending *-ta*, however, *-nun* must show up; it occurs as early as around eleven months in *ca-n-ta* ‘(He) sleeps/is sleeping’ (YJ).

The past tense marker, on the other hand, occurs at around 1;4, and it is remarkable that the past tense marker in children’s speech occurs predominantly with telic or Achievement/Accomplishment verbs in Korean, as in other languages. Tense and aspect are more closely interrelated in child grammar than in adult grammar (C. Lee 1997). See Tables 14.1, 14.2, 14.3.

The telicity-biased tendency is even greater than in other languages (cf. Gökmen and Lee, 2002). Observe telic verb utterances with the PAST tense in perfective interpretation:

Table 14.1. *Periods of data samples (from the onset of PAST marking)*

Child	Period (years:months.days)
CK	1:4.15–2:0.00
SK	1:2–1:7–2:4.18
H	1:7.06–1:9.05

Table 14.2. *Distribution of aspectual classes with PAST marking (raw token freqs in parentheses)*

Child	Achievement	Accomplishment	Activity	State	Total
H	58.2% (64)	39.1% (43)	1.8% (2)	0.9% (1)	100% (110)
CK	51.7% (31)	45% (27)	0.3% (2)	0% (0)	100% (58)
SK	49.3% (36)	45.2% (33)	.5% (4)	0% (0)	100% (73)

Table 14.3. *Distribution of telic (achievement + accomplishment) verbs (token frequencies)*

Child	Distribution
CK	96.7% (31 + 27 = 58)
SK	94.5% (36 + 33 = 69)
H	97.3% (64 + 43 = 107)

- (43) Verb types used with PAST (-ess-)
 H ppangppangi chac -ess -e '(I) found the car.'
 mal -ess -e 'dried'
 tal ttu -ess -e 'The moon rose.'
 ccic -ess -e-yo '(I) tore (it).'
 tat -ess -e -yo '(I) closed (it).'
 anc -ess -e '(I) sat.'
 ka-cie w-ass-e '(I) took (it) and came.'
 big bird chum chu -ess-e 'Big bird danced.' [activity]
 CK tay -ss -ta 'Done,' 'Became,' '(I) succeeded.'
 ppung-ppung hay -ss -e '(I) made air,' '(I) did 'ppung-ppung.'
 tter-e -ci -ess -e '(It) fell down.'
 Innye ur -ess -e 'The doll cried.' [activity]
 senphungki kkut-na-ess-e 'The fan is finished/off.' [perfective aspect verb]
 SK ppay -ss -e '(I) squeezed (took) (it) out.'
 emma cap -ass -e '(I) caught Mommy.'
 son ppi -ess -e '(I) had my wrist sprained.' ['son' Nom/Acc]
 ta nwu -ess -e '(I) finished making water.'
 ta mek -ess -e '(I) ate (it) up.' [completion adverb added, making the verb perfective]
 epse -ci -ess -ney '(It) disappeared.'
 kkamccak nol -ass -ney '(I) am surprised.'
 yuri kkay-ci-ess-e '(The) glass has been broken.'
 ar -ass -e '(I) came to know it,' 'I realized it.' [cognitive achievement]

Now observe the emergence of grammatical aspects:

- (44) Onset of complex progressive/perfective form
 CK 2:1 ca-ku iss -e '(is) sleeping' [progressive] [activity]
 [Intransitive V]
 (after Mommy asked, 'Why don't you drink your milk?')

- 2:3.02 cwunkywu-ka uyca anc -a iss-e
 NOM chair sit -CONN be -End
 ‘Choon-Kyu is seated (on a car seat).’
- H 1:9 pihayngki tha -ku iss -ci anc-a tha -ku iss -ci [perfective]
 [activity] [Vt]
 airplane ride Prog End sit ride Prog End
 ‘(He) is riding an airplane, sitting and riding it.’
 (responding to Mommy’s question, ‘What is Grover
 doing now?’)
- H Other complex forms:
 noh-a twu-ess-e ‘put it down,’ ‘left it down’
 [locomotive V+aspect AUX]
 ol -i -e noh -ass -e ‘put it up,’ ‘lift and left it’
 [manner V+locomotive V]
 cf. ol -i -ess -e ‘lifted’ [activity] [manner V]
 khokkiri noh -ko w-ass -e ‘put down the elephant and came’
 ka-ci-e w-ass-e ‘took and came (brought)’
 [manner V+locomotive V]
 ol -a ka -ass-e ‘went up’ [manner V+locomotive V]

Historically, *V-e iss-* → *V-ess-* → diverges to perfective (result continuation) *V-e iss-* and progressive (process=dynamicity continuation) *V-ko iss-*; these two grammatical aspect forms are acquired at around two years of age. With the form *-ko iss-* for result salient transitive verbs, ambiguity arises, e.g. *moca -rul ssu -ko iss -ta* ‘putting on/wearing a hat.’

- (45) Change of state verbs with imperfective marking with no PAST, meaning mostly perfective, witnessed in a few cases in early stages:
 CK neme-ci-e ‘in the result state of falling down’ (after she fell down)
 kkwuki-e-ci-e ‘wrinkled’ (after she wrinkled a picture)
 ankyeng kki-e ‘wearing glasses’ (looking at a celebrity named Payk Nampong wearing glasses on TV)
 [Particularly for change of state verbs with the morpheme ‘-ci’]
- H noh-ko ‘putting down’ (right after putting down a toy)
 pappa mek-ko ‘eating a meal’
- (46) Non-past/imperfective/present marking [during the same period]
 CK a ttu- e ‘oh, hot’ [psych]
 aphu-e, aphu-e ‘it hurts, it hurts’ [psych]
 (namu) iss -ta ‘there is (a tree)’ [existential]
 pikhi-e-yo ‘step aside!’ [imperative] [accomplishment]
 mu-i-a? mu-i-a? ‘what is it? what is it?’ [wh-question] [copula]

appa ka-a ‘Daddy go away,’ ‘Daddy leave’ [imperative]
 [accomplishment]
 kho-ca ‘is sleeping’ (concerning his sister) [activity]

Non-past tokens are almost four times more frequent (224 tokens) than past occurrences in CK’s speech.

- (47) Insisting on using simple past marking despite Mom’s repeated input of present perfect form:

H: *anc-ass-e* ‘sat’ (looking at a picture in which he is seated)
Mommy: ‘Say ‘anc-a iss-e,’ ‘anc-a iss-e’’
H: *anc-ass-e*
Mommy: ‘anc-a iss-e’
H: *anc-ass-e*
Mommy: ‘nwu -e iss-e’ (Be lying)
H: *nwu -ess -e*
Mommy: ‘kkay -e iss-e’ (Be awake)
H: *kkay-u iss-e*
Mommy: ‘anc-a iss-e’
H: *anc-ass-e*

The mother tried to correct the child’s error several times but the child kept using the same past form (presumably in the perfective meaning), rather than imitating Mom’s grammatical aspect perfect form. The input theory cannot explain this kind of phenomenon. We frequently encounter similar stories on negative concord in English and so on. Furthermore, the input ratio of 60%, which Shirai and Andersen (1995) show, is not enough to account for the consistently high telic verb ratio of more than 90% in all the studies examined, including the present one.

We can show the general aspectual structure of event/eventuality schematically as follows:

- (48) Schematic aspectual structure of event

CAUSE→BECOME (COME TO) MOTION→PROCESS→
 CHANGE-of-STATE /LOCATION →RESULT STATE

Children are universally sensitive to events with clear end-points; such events are well represented by telic (achievement or accomplishment) verbs, and telicity (having aspectual end-points) is well marked by perfective past. That is why past tense-marked verbs tend to be predominantly telic in child language crosslinguistically. Consider the issue of the acquisition of N/V in this connection, with N generally being acquired earlier than V; the category of N is more delimited and stable – see the related chapter by Pae and Song (in this

volume), noting that children who speak V-final languages are more sensitive to V forms. Children have less (agentive) control over an entire situation than adults and therefore perceive the salient change of state/location sub-events aspectually; at one stage even the object (Theme/Patient) is assigned nominative rather than accusative case by Korean children (see No's chapter for data) as if in an ergative verb system. Consider ergative languages in which the parameter of ergative case marking has been chosen. Ergative/unaccusative verbs in different languages, such as 'sink' and 'break' in English, show some such residual tendency. Multi-nominative marking is performed as if all incoming argument variables are assigned subject functions, or as if the nominative case is realized as the subject of an embedded abstract underlying inchoative clause for an accomplishment clause with *vP* (e.g. *appa-ka pihaynggi-ka mantul-ess-e* 'Dad made an airplane', H). This competence must be universal and somewhat biologically conditioned (see Bickerton, 1989).

Conclusion

In child and colloquial Korean, various epistemic meanings are differentiated by different sentence endings even within the category of declarative mood, and there are different mood endings corresponding to different sentence types. The primacy of mood over modality in the order of acquisition is evident and the imperative (request) mood precedes others. The relatedness between the imperative mood and various deontic modal markers explains mixed modality and misapplication to the wrong person in early child Korean.

These modality markers are generally acquired around 2 years of age, whereas the basic moods or sentence types appear a little earlier. It is natural to expect requests to be the earliest of all types of illocutionary act, since the child wants, above all, to get what he/she desires. For example, the baby talk *epwupa* 'up we go', used by SK at 0:5, is originally a caregiver's request to the child. The child then uses the same form to make his/her own request. SK's first words, such as *mamma* 'food', *pappa* 'rice', *emma* 'Mommy', all nouns, were used to get what she desired, in other words, to make a request. Next, the child acquires the imperative mood, followed by an elaboration of explicit deontic modals right after 2. The age of 2 is an important period, as suggested by neuroscience.

An imperative sentence uttered as a request already involves volition/desire, as indicated above. Therefore, when the child is in the course of acquiring deontic modal elements after 2, he/she reveals mixed modality, misapplication of the speaker's volition to the wrong grammatical (mainly second) person, and overextension.

In English, functional categories of inflection occur rather late, compared with the early development of complex sentence ending inflections in Korean.

To explain this kind of variation in acquisition, it appears that attunement theory (partial development at birth in constructionism) is more useful than universal theory.

The controversy over whether deontic or epistemic modality is earlier arises from a failure to distinguish between mood and modality (cf. S. Choi, 1991). Choi argues that Korean children make ‘epistemic’ before ‘deontic’ distinctions, contra those who suggested the reverse (Stepany, 1986; Aksu-Koç, 1988). It is true that Korean shows subtle distinctions among declarative type endings such as *-e* and *-ta*. The exclamatory mood marker *-kwuna* and the surprise mood marker *-ney* are, I would say, separate types of mood distinct from declarative. If we include these two in the declarative type, as Choi apparently decides to do, then her argument may stand, but the equivalents of Indo-European modal auxiliaries, etc. seem to have clearer certainty/uncertainty epistemological interpretations. In any case, imperative mood inherently involves volition or deontic modality. Deontic and some epistemic modal elements are acquired rather late, near or after 2, whereas moods as sentence types are acquired well before 2 in Korean. This is a subtle matter and we need further investigation to resolve all the issues. We have also discussed aspects of negation and tense/aspect.

We can discern a certain order of development or distinct stages in the acquisition of modal and other functional elements (categories/projections) in childhood, but there are variations among children and different languages. In this sense, it is not easy to conclude that certain things must be earlier than other things and ‘continuity’ is not easy to abandon completely. The negative imperative (=prohibition) has a long form with *V-ci*, acquired quite early together with the incorrect short-form negation imperative ‘*An V!*’ But the non-imperative long-form negation *V-ci anh-* is acquired very late. This suggests that a prohibition speech act is more urgent; the negative imperative (=prohibition) morpheme *mal-* with *V-ci* must be acquired earlier than the general non-imperative long-form negation *V-ci anh-*, which is functionally equivalent to the (non-imperative) short-form negation *an V* that children already freely use (see Han and Lee, 2007). The marked construction of prohibition has a certain lexical nature, although pragmatic need as well as semantic/syntactic structure still facilitates its acquisition.