

The Discourse Basis of Constructions: Some Evidence from Korean Acquisition

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1. Introduction

The “return of constructions” to linguistic theory has introduced a new approach for analyzing argument structure and its acquisition (Tomasello, 1998). In this approach (Goldberg, 1995), argument structure is conceptualized as involving clause-level semantic-syntactic templates: A construction accommodates verbs of a particular semantic type taking arguments that bear certain semantic and syntactic relationships to those verbs. The prototypical transitive construction, for example, involves a volitional agent encoded as the subject of the verb, which causally affects an inanimate patient encoded as the direct object. This construction-level meaning holds across specific verbs and arguments, and is extended to incorporate other less prototypical meanings (Goldberg, 1995: 117-118). If we assume that “constructions are the basic units of language” (Goldberg 1995), it follows that the child’s task is to acquire constructions. What does this entail? Research within a Construction Grammar framework has emphasized the central role of the verb and the semantic relations between arguments and verb. What is the role of the semantic prototype ‘human Agent-inanimate Patient’ in the acquisition of transitivity (Slobin, 1985; Bowerman, 1990)?

Since Construction Grammar was originally based on individual, invented sentences, usage-based information about the pragmatic status of arguments is not fundamental to the theory. In English, the core arguments of verbs must be overt in most contexts, and sentences analyzed in a construction framework typically feature lexical arguments. So languages that permit pervasive ellipsis of arguments in discourse raise important questions—theoretical and methodological—for a construction-based approach to the acquisition of argument structure. From a methodological point of view, languages with ellipsis pose a challenge: How can we measure ‘acquisition’ of a construction when adult usage neither requires, nor typically exhibits, the full form of that construction? How should we conceptualize the mental representation of a construction, such as the transitive construction, in languages where it takes various surface shapes? Does its full form, i.e. verb plus two overt arguments, have special cognitive status?

Discourse-functional research on grammar provides a useful complement to Construction Grammar. It is based on discourse data and permits a focus on the discourse status of arguments and their realization. For example, cross-linguistic research on Preferred Argument Structure (Du Bois, 1987) has shown that two arguments of transitive verbs—A (subject of a transitive verb) and O (direct object)—are rarely both lexical. Instead, the A argument, usually given information, tends to be pronominal or elliptical, while the O argument, more likely to be new information, is often lexical. These findings have been substantiated for adult as well as child speakers (Allen & Shroeder, 2003; Clancy, 1993, 2003; Du Bois et al., 2003). While research on Preferred Argument Structure has noted the relevance of the semantic dimension of animacy (A tends to be human, O inanimate), no special status is accorded to Agent-Patient semantic relations. A and O arguments are seen as differing both semantically, and in terms of discourse factors, with A as given vs. O as potentially new. Thus the arguments are seen as independent elements rather than as a linked pair.

In this paper, I use acquisition data on the production of transitive clauses in Korean caregiver-child discourse to address the nature of children’s mental representation of the transitive construction in languages with argument ellipsis. I highlight the discourse status of

arguments, and, drawing on Construction Grammar, I emphasize the configuration of paired Agent and Patient semantic relations to the verb. Section 2 describes the data; Section 3 lays out the adult model of transitivity in Korean, represented by the speech of two mothers to their young children, including the range of surface forms used in the A and O roles, and the frequency of different realizations of transitive clauses. Section 4 considers longitudinal data on the two children's early transitive clauses. The final section presents some conclusions about the mental representation of the transitive construction in Korean, and proposes criteria for evaluating the acquisition of the transitive construction in languages with argument ellipsis.

2. Subjects and Methodology

The data consist of 13 transcripts of Korean caregiver-child discourse for each of two girls, Hyenswu (H) and Wenceng (W), each audiotaped for 90 minutes every two weeks in their homes with their mothers (HM and WM, respectively) and one or two Korean research assistants. The children were recorded for one year, beginning when Wenceng was 1;8 and Hyenswu 1;10 years old. Their families belonged to a close-knit community of Korean graduate students in Providence, Rhode Island, and planned to return to Korea upon completion of the fathers' degrees. Activities during the recording sessions typically included drawing and coloring, reading from storybooks, eating snacks, and playing with lego, toys, and puzzles.

All children's utterances with an overt or easily recoverable verb were entered in a Paradox database. To facilitate developmental analyses, the transcripts were grouped into three "stages": 1) Early: the first 4 transcripts, 2) Mid: transcripts 6-10, and 3) Late: final 4 transcripts. For each mother, 1050 such utterances were coded: 350 from each of the three stages. For this study, I consider only clauses with transitive verbs. Verbs were coded as transitive on the basis of their most frequent adult usage. Any questionable cases where a transitive verb lacked an overt object were checked by a native speaker to determine whether the utterance in context would naturally be interpreted as entailing reference to a direct object. Cases where no such direct object was readily identifiable were treated as intransitive, e.g. *pocima* 'don't look' was coded as intransitive although *pota* 'see, look' is usually used transitively because the object of perception was not clear. The verb *hata* 'do' poses special challenges; native speaker intuitions about transitivity vary considerably. Three Korean linguists familiar with the present sample were asked to judge all cases in which *hata* 'do' lacked an overt direct object; utterances considered transitive in context by at least two of the three were coded as transitive.

The referents of A and O arguments of each transitive verb were coded for surface form as follows: Ellipsis (no overt form); Deictic Pronoun, e.g. *ike*, *yoke* 'this'; *kuke* 'that', *ceke* 'that' (distal); Personal Pronoun, e.g. *na* 'I', *ne* 'you', *wuli* 'we'; and Noun, including proper names, kin terms, and lexical nouns. Each referent was also coded for grammatical, semantic, and discourse-pragmatic properties (e.g. whether the referent was new or previously mentioned). For this study, codings for Animacy (e.g., human) and Semantic Role (e.g., Agent) were used to classify transitive clauses as prototypical vs. non-prototypical.

Transitive clauses were treated as prototypical if they had a human or pseudo-human (e.g. animal story character) agent in A and an inanimate referent in O. Verbs coded as prototypical involved: 1) direct physical contact of the agent and patient, e.g. *capta* 'grab', *mancita* 'touch'; 2) a change of state in the patient: in physical integrity (*mekta* 'eat', *ccicta* 'tear', *pwuswuta* 'break'), appearance (*saykchil hata* 'color', *ssista* 'wash'), or activation (*khyeta* 'turn on', *kkuta* 'turn off'); and/or 3) a change in location of the object, e.g., *ppayta* 'pull out', *nohta* 'put on', *nehta* 'put in', *kacyeota* 'bring'. The verb *hata* 'do' was coded as prototypical when its usage fit these criteria. Dolls and lego figures are treated as inanimate when the clause encodes actions performed on them by a human agent.

3. Results

3.1. Frequency and surface forms of transitive clauses in the mothers' speech

To understand the acquisition task facing the children, let us first consider the frequency and surface forms of transitive clauses in the speech of the two mothers. Table 1 presents the frequency of transitive clauses in the mothers' speech, as well as of prototypical transitives. Prototypical transitives featured a human/pseudo-human agent acting on an inanimate patient.

Speaker	Transitive Clauses		Prototypical Transitive Clauses	
	N	(% of all clauses)	N	(% of all transitive clauses)
H's mother (HM)	380	(44%)	181	(48%)
W's mother (WM)	377	(45%)	138	(37%)

Table 1. Proportional frequency of transitive clauses in the mother's speech.

As Table 1 shows, the frequency of transitive clauses is rather high, and almost identical for the two mothers. Greater individual variation is apparent in the proportion of transitive clauses that fit the semantic prototype: HM uses a higher rate of prototypical transitive clauses than WM.

In languages with argument ellipsis, a transitive clause can be realized in a variety of surface configurations. Figures 1 and 2 present the forms found in the mothers' speech for referents in the A and O roles, respectively. For each type of argument, the frequencies are quite similar in the two mothers. Figure 1 indicates that ellipsis is the most frequent realization of A here. This is because the majority have first or second person referents, given information in context, and can therefore be left unexpressed, as in (1) below. (See H. S. Lee (1991) for the abbreviations in the Korean glosses.)

- 1) Her mother is trying to get Hyenswu (1;11) to perform for the taperecorder.
 hyenswu-ya, songaci nolay an-hay?
 Hyenswu-VOC calf song NEG-do.IE
 'Hyenswu, won't (you) do (the) 'Calf' song?'

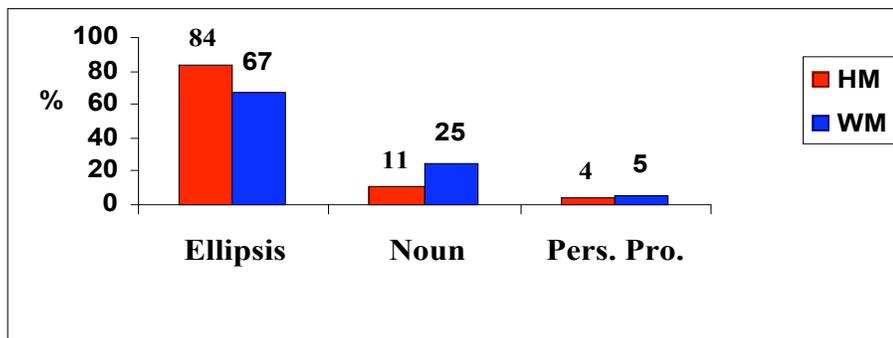


Figure 1. Distribution of referential forms in the A role in the mothers' speech.

While only three forms of realization for A are common in the mothers' speech, the O role exhibits greater diversity, as shown in Figure 2 (d-pro. = deictic pronoun, comp. = object complement, q-pro = interrogative pronoun). When O referents encode given information, they are usually left unexpressed; when new, they are realized lexically, as in (1) above.

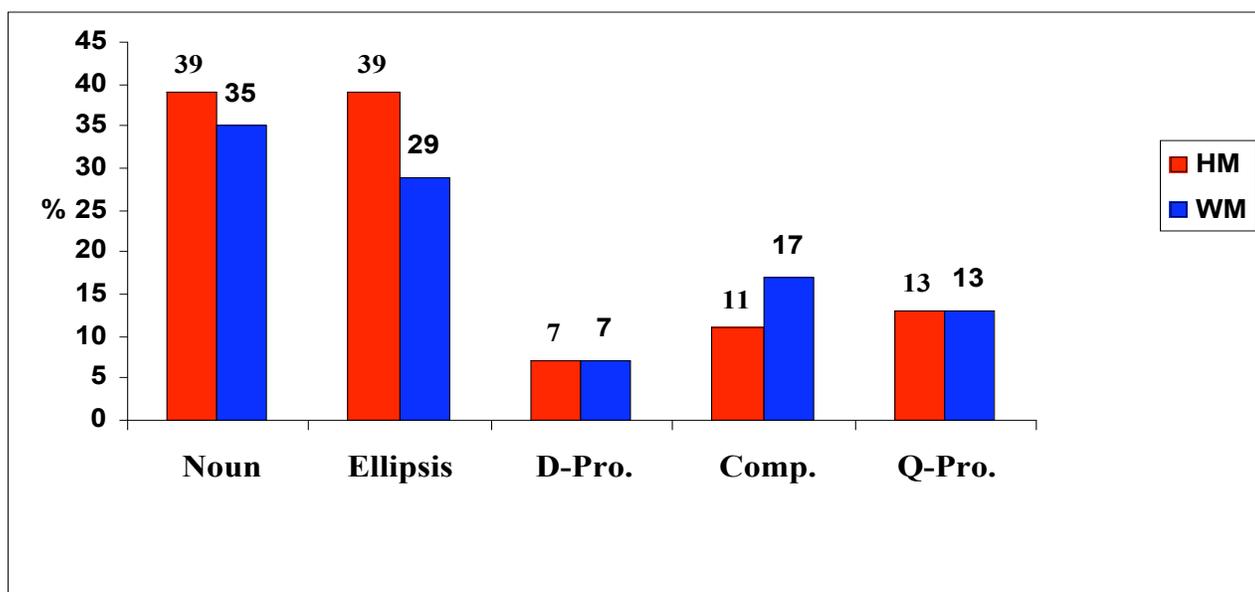


Figure 2. Distribution of referential forms in the O role in the mothers' speech.

With three common realizations of A and five of O, the surface form of transitive clauses can be quite variable; the mothers' speech exhibits 24 different pairings of form for A and O. However, the frequency of each combination (or Argument Structure Realization— ASR), is similar. Figure 3 presents the most frequent Argument Structure Realizations, those that comprise more than 5% of all transitive clauses in at least one mother's speech. (ASRs featuring ellipsis of the verb are not considered here.) The ASRs in Figure 3 are listed in AOV order, the most frequent constituent order in Korean for transitive clauses with two overt arguments. (___ = ellipsis, V = verb, N = lexical noun or proper name, d-pro = deictic pronoun, comp = object complement, q-pro = interrogative pronoun).

As Figure 3 shows, no one Argument Structure Realization comprises the majority of transitive clauses. The most common configuration, elliptical A with different types of overt O, is shared by the first four ASRs in Figure 3. The most common ASR in the mothers' speech is 'elliptical A—lexical O', as in example (1). The second most frequent ASR is a transitive verb with no overt arguments. While HM relies heavily on these two ASRs, WM uses a variety of ASRs with lower frequency (including ones not in Figure 3). The full AOV configuration is rare for both mothers; its single most common realization has lexical nouns for both A and O (NNV in Figure 3). The final ASR in Figure 3, with an overt A and elliptical O, reverses the common pattern and is rare.

Each Argument Structure Realization in Figure 3 represents a specific combination of surface forms and semantic and discourse-pragmatic functions. ASRs with OV configuration are the most frequent because A typically encodes given, first/second person referents, while O encodes third person referents that are sometimes new or non-referential, hence realized lexically. Mastery of the adult system of ASRs in Korean requires acquisition of particular combinations of forms, and of the semantic and discourse-pragmatic basis for selecting each combination in specific discourse contexts. Underlying the most common transitive ASRs in the mothers' speech is a first or second person A and a third person O. This pattern is much more pervasive than the human Agent—inanimate Patient semantic prototype (79% of HM's transitive clauses and 54% of WM's (compare Table 1). Among transitive clauses that fit this discourse-pragmatic pattern, lexical O arguments generally had referents that were new or non-referential (HM 72%, WM

86%). The transitive construction has primary discourse-pragmatic properties that are at least as important as its syntactic-semantic properties.

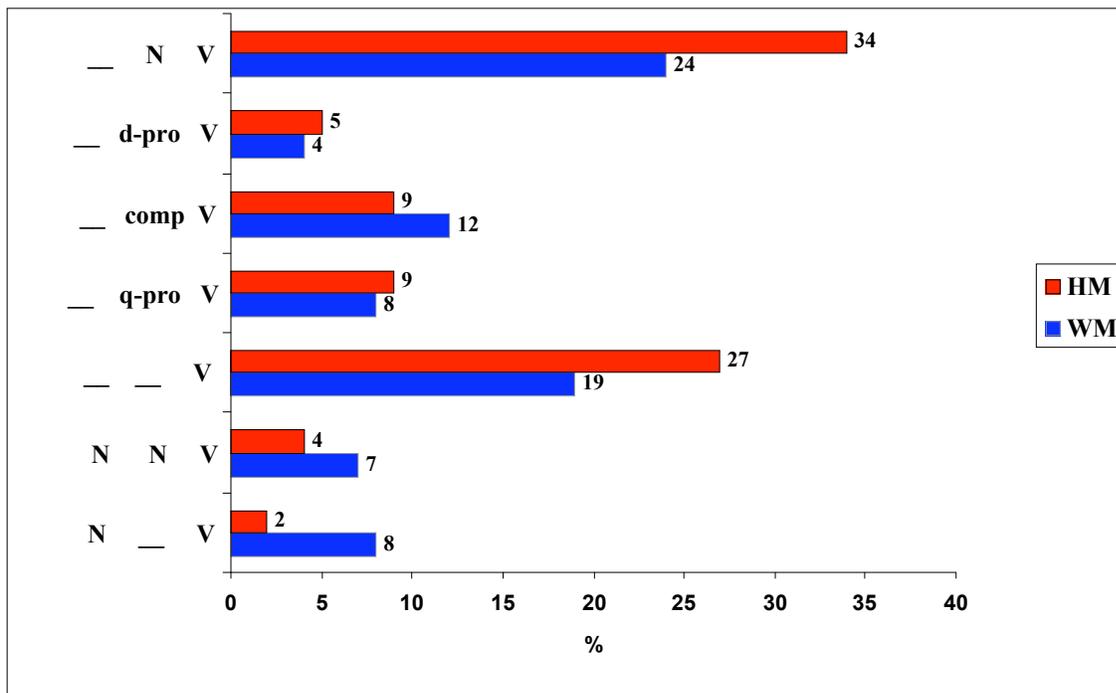


Figure 3. Argument structure realizations for transitive clauses in the mother's speech.

In sum, from the mothers' data, the model of transitivity the two children are exposed to contains frequent transitive clauses, with Hyenswu hearing a higher proportion of prototypical transitives (Table 1). The diversity of referential forms to be acquired is greater for O than A (Figures 1-2). The transitive in Korean exhibits multiple ASRs, most of which do not exhibit the full AOV form (Figure 3). The most frequent ASRs encode a discourse-pragmatic pattern that consists of a referential, given, first or second person A and a third person O. To use transitive ASRs appropriately, the child must learn which referential forms encode which types of referents in discourse, as well as how discourse referents with particular semantic and discourse-pragmatic properties are mapped to the A and O roles of transitive verbs. Since using transitive ASRs appropriately in Korean entails mastery of the discourse-referential system for encoding arguments, it is clear that the transitive construction has a strong functional basis in discourse.

4. Development of Argument Structure Realizations

How are Argument Structure Realizations acquired? Table 2 presents the transitive verbs used by Hyenswu during the first three months of the study, along with the ASRs she used with each verb; prototypical transitive verbs are distinguished from other transitive and ditransitive verbs. The ASRs are given in canonical Korean AOV order; for the ditransitive *cwuta* 'give', the order is IO-A-O-V. The frequencies of each verb and each ASR for that verb are given in parentheses. The first use of each verb and the first use of each ASR appear in boldface.

As Table 2 shows, in the first recording Hyenswu uses eight transitive verbs and the ditransitive *cwuta* 'give'; semantically prototypical transitive clauses clearly predominate. At this point, Hyenswu uses just two ASRs with *cwuta* 'give' and transitive verbs: 1) verb alone, with no overt arguments, and 2) elliptical A—lexical O plus verb, as in (2) below.

Hyenswu's two transitive ASRs at this stage are the most frequent ASRs in her mother's speech. Hyenswu's early transitive clauses also exhibit the form of their major semantic and

discourse-pragmatic properties. In (2), the unexpressed agent in A is HM (2nd person, given), while the lexical O argument, the door, is a 3rd person, new patient. This example illustrates the fact that as ASRs are acquired, so are their discourse-pragmatic properties. Hyenswu's A arguments all have second person referents, her O arguments all have third person referents; the referents of her lexical O arguments are either new, as in (2), or non-referential, as in *sakwa mekullay* '(I) will eat (an) apple.'

(2) Hyenswu (1;10) wants a snack and has brought her mother into the kitchen.

H: *mwun yel-e*
 door open-IE
 'Open (the) door.'

At this early stage, however, since Hyenswu has yet to use an overt A, it is unclear whether to credit her with any mental representation of the A role. At 1;10 all her prototypical transitive verbs are used imperatively, as is *cwuta* 'give'; throughout the year, HM uses the transitive construction imperatively much more frequently (40% of all transitives) than WM (18%). There is no evidence from production that Hyenswu distinguishes between prototypical transitives and ditransitive *cwuta* 'give', which is not yet used with an overt recipient. (The unexpressed recipient of *cwuta* 'give' is always Hyenswu herself, and ellipsis is appropriate by adult standards.) This apparent conflation of transitives and ditransitives makes sense semantically; *cwuta* 'give' fits the transitive prototype of a volitional agent acting on an inanimate object. Hyenswu's use of *cwuta* also fits the discourse-pragmatic prototype in that it features an elliptical, given, second-person Agent and (4 out of 5) a lexical, non-referential O.

The only semantically non-prototypical, non-imperative transitive verbs in Hyenswu's speech at 1;10 are *ipputa* 'like, love' (lit. 'pretty') and *mipta* 'hate' (lit. 'ugly'). These verbs appear as one-word answers to questions that her mother asks about which parent Hyenswu prefers, e.g. HM: *appa miwe, ippe?* '(Do) (you) hate daddy, (do) (you) love (him)?' H: *ippe*. '(I) love (him).' Although Hyenswu appears to understand these questions, she does not use these verbs spontaneously until five months later. Thus Hyenswu's early usage of transitive verbs is essentially limited to the prototype of human agents acting on inanimate patients, which is quite common in her mother's transitive clauses (Table 1). In the next month (1;11), Hyenswu adds a new ASR for transitives, with a deictic pronoun for O (___ d-pro V); she also departs from the prototypical O argument (inanimate, new or non-referential, and lexical) in her use of *anta* 'hug' with an elliptical, given, human referent (herself) as O. And she produces her first non-imperative transitive: *ppayssta* '(I) took.off (it)', after removing the cover of a pen which had just been mentioned; the verb-alone ASR is appropriate here since both arguments are given information.

After this slow start, Hyenswu's use of transitive clauses changes at 2;0, with a large increase in transitive verbs, and the appearance of *hata* 'do', in semantically prototypical and non-prototypical uses, e.g. with an O argument, as in *enni ike hay* 'Sister (=you) do this', wanting her sister to make a toy doll crawl. As in this example, Hyenswu also begins to use less frequent ASRs, e.g. with overt A arguments, and full AOV forms. Her A referents are now sometimes third person, and only 64% of her transitive clauses are imperative. As Hyenswu moves beyond the semantic prototype for the transitive and its most frequent ASRs, she also begins to use less frequent discourse-referential patterns, e.g. *Hyenswu* for first person and *emma* 'mommy' for second person. The latter usage also appears at 2;0 in Hyenswu's first differentiation of ditransitive from transitive, as she marks the recipient of *cwuta* 'give' overtly, e.g. *hyenswu kwaca cwe* 'Give Hyenswu (= me) (a) cookie'.

At 2;0, Hyenswu appears to have acquired a general transitive construction. She uses the most frequent adult transitive ASR—elliptical A and lexical O—with seven verbs, and two overt forms in O. She has clearly acquired the discourse-pragmatic basis for this ASR, in that her A

arguments are almost always given, first or second person referents, while her lexical O arguments are new or non-referential. In addition, she uses the full AOV configuration with two verbs (*hata* ‘do’ and *ppayta* ‘take out/off’), and can use two overt referential forms—lexical nouns and *nwu-ka* ‘who-NOM’—in A. She also generalizes beyond the semantic and discourse-pragmatic prototypes for the transitive, with less frequent transitive ASRs, and differentiating the argument structure of transitive verbs and *cwuta* ‘give’.

Age	Prototypical Transitive Verbs	Argument Structure Realizations			Other Transitive and Ditransitive Verbs	Argument Structure Realizations (IO) A O V					
		A	O	V		(IO)	A	O	V		
1;10	ppayta ‘take out’ (2)	—	—	V (2)	cwuta ‘give’ (5)	—	—	—	V (1)		
	pwuthita ‘stick on’ (2)	—	—	V (2)		—	—	N	V (4)		
	khyeta ‘turn on’ (2)	—	N	V (2)		ipputa ‘like/love’ (7)	—	—	V	(7)	
	kkuta ‘turn off’ (1)	—	N	V (1)			mipta ‘hate’ (2)	—	—	V	(2)
	tephta ‘spread out’ (1)	—	N	V (1)							
	yelta ‘open’ (3)	—	N	V (3)							
1;11	mekta ‘eat’ (1)	—	—	V (1)	anta ‘hug’ (1)	—	—	V	(1)		
	nohta ‘put’ (2)	—	—	V (2)		cwuta ‘give’ (2)	—	—	N	V (2)	
	ppayta ‘take out’ (2)	—	—	V (1)							
		—	d-pro	V (1)							
2;0	cwupta ‘grab’ (1)	—	—	V (1)	cwuta ‘give’ (9)	—	—	—	V (3)		
	milta ‘push’ (1)	—	—	V (1)		—	—	N	V (5)		
	tatta ‘close’ (1)	—	—	V (1)		N	—	N	V (1)		
	mekta ‘eat’ (5)	—	—	V (2)							
		—	N	V (3)							
	hata ‘do’ (3)	—	N	V (2)	hata ‘do’ (5)	N	d-pro	V (4)			
		q-pro	N	V (1)		N	N	V (1)			
	yelta ‘open’ (2)	—	—	V (1)							
		—	N	V (1)							
	nohta ‘put on’ (25)	—	—	V (16)							
		—	N	V (4)							
		—	d-pro	V (4)							
		N	—	V (1)							
	ppayta ‘pull out/off’ (23)	—	—	V (12)							
		—	d-pro	V (9)							
		N	—	V (1)							
N		N	V (1)								

Table 2. Hyenswu’s transitive clauses (1;10-2;0).

In the ensuing months, the diversity of Hyenswu’s O referents continues to increase. The interrogative pronoun *mwe* ‘what’ appears at 2;2, and object complements at 2;3, completing the adult set of O forms (Figure 3). When Hyenswu begins using the pronoun *na* ‘I’ as an A argument at 2;5, she attains adult-like diversity in the A role as well (Figure 2). These forms maintain the discourse-pragmatic pattern of given, first-person A referents and non-referential O referents, while affording new options—pronouns and complements—for expressing them.

The developmental sequence available in the data for Wenceng is more compressed since, although younger, she was more linguistically advanced than Hyenswu at the onset of the study. Table 3 summarizes her transitive clauses during the first recording.

Age	Prototypical Transitive Verbs	Argument Structure Realizations			Other Transitive and Ditransitive Verbs	Argument Structure Realizations (IO) A O V			
		A	O	V		(IO)	A	O	V
1;8	tatta ‘close’ (1)	—	—	V (1)	ppoppohata ‘kiss’ (1)	—	—	V (1)	
	kacyeota ‘bring’ (1)	—	—	V (1)	sata ‘buy’ (2)	N	—	V (1)	
	mekta ‘eat’ (4)	—	N	V (4)		—	d-pro	V (1)	
	capsusita ‘eat (HON.)’ (1)	—	—	V (1)	kaluchita ‘teach’ (1)	p-pro	N	V (1)	
	pwuthita ‘stick on’ (2)	—	—	V (1)	silhta ‘dislike’ (1)	N	N	V (1)	
		—	d-pro	V (1)	kulita ‘draw’ (1)	—	d-pro	V (1)	
	ssuta ‘put on (head)’ (3)	—	—	V (1)	pota ‘see, look at’ (3)	—	—	V (2)	
		N	N	V (1)		—	N	V (1)	
		d-pro	N	V (1)	hata ‘do’ (=say) (1)	N	comp	V (1)	
					cwuta ‘give’ (1)	—	—	N V (1)	

Table 3. Wenceng’s transitive clauses (1;8).

As Table 3 shows, many of Wenceng’s transitive clauses do not fit the semantic prototype, for example, with experiencers rather than agents in the A role and objects of perception and emotion in the O role of the verbs *siphta* ‘want’, *silhta* ‘dislike’, and *pota* ‘see, look at’, e.g. *mwulkoki pwassta* ‘(I) saw fish’. She also has other referents in the O role that are not inanimate patients: the abstract object of *kaluchita* ‘teach’, the “effected” object of *kulita* ‘draw’, the human O of *ppoppohata* ‘kiss’, and object complements of reported speech with *hata* ‘do’ (= ‘say’), e.g. *appa hello haysse* ‘Daddy said hello’. Consistent with her mother’s lower frequency of imperative transitives, only 27% of Wenceng’s transitive/ditransitive verbs are imperative at 1;8.

At 1;8 Wenceng already exhibits a referential diversity in A and O that is quite adult-like, encoding A with ellipsis, nouns, and one personal pronoun, and O with nouns, ellipsis, deictic pronouns, and an object complement. (As Table 3 shows, she also uses a deictic pronoun in A to refer to a doll.) She uses five of the six most common adult ASRs, including the full AOV transitive construction, which appears with five different verbs. Furthermore, the majority of Wenceng’s transitive clauses fit the discourse-pragmatic prototype. The A role is usually filled by given, first or second person referents; no A’s encode new information. In contrast, the O role is almost always occupied by third person inanimate referents. When new or non-referential, O is lexical; when mentioned in a prior clause, it is elliptical; deictic pronouns in O can encode new or previously mentioned referents. In sum, at 1;8, Wenceng appears to have acquired a general transitive construction with both discourse-pragmatic, and structural/semantic properties. She can also use less frequent, non-prototypical discourse-referential patterns, e.g. her name for self-reference in A, as well as third person referents (dolls) in A.

At 1;9 Wenceng increases the number and types of object complements in O, e.g. *kulim kuliko siphe* ‘(I) want to draw pictures’, and begins to differentiate between transitive verbs and ditransitive *cwuta* ‘give’. Like Hyenswu, Wenceng’s first ditransitive differentiated from transitives features an overt, first person recipient: *wencengi jwusu cwe* ‘Give Wenceng (= me) juice’. At 1;10, she begins to use *mwe* ‘what’ in O, e.g. when looking at a picture book: *emma, mwe hanunkeya* ‘Mommy, what are (they) doing?’; this brings her repertoire of forms in O to the adult range in Figure 3. Thus her generalization of the transitive construction progresses incrementally, with the addition of new complements and non-referential forms in the O role.

5. Discussion and Conclusions

How should we conceptualize “the transitive construction” in languages with argument ellipsis? These results suggest that it consists of—and is acquired as—a set of discourse-sensitive ASRs. The full AOV construction with two lexical arguments, a low-frequency ASR, appears to have no special cognitive status or fundamental role in acquisition. This is supported by research showing a clear preference for OV clauses with transitive verbs vs. SV clauses with intransitive verbs in the earliest stages of verb acquisition in Korean, with the full AOV configuration emerging somewhat later (Choi, 1999).

How can acquisition of the transitive construction be measured in languages like Korean? We have to assess developmental data in the light of the transitive ASRs in caregivers’ discourse. The present findings suggest that the following criteria are useful for languages with argument ellipsis: 1) the child contrastively uses referential forms in the A and O roles that approximate the adult repertoire for each role; 2) these forms exhibit the same semantic and discourse-pragmatic correlates in child and adult usage; 3) the child uses the most common adult transitive ASRs with different verbs, and 4) the child differentiates between ASRs with transitive verbs and verbs with other argument structures in adult speech, such as intransitives and ditransitives.

What conclusions can we draw about Korean children’s representation of the transitive construction? Construction Grammar leads us to anticipate that children will mentally represent the semantic prototype (Agent as A, affected object as O), and to predict that prototypical transitive clauses will be acquired early and easily, and serve as the basis for generalization of the transitive to verbs and arguments with different semantics. Evidence for the importance of an ‘animate Agent—inanimate Patient’ semantic prototype is mixed. One child, Hyenswu, clearly relied at first on this prototype, with verbs that accommodate non-prototypical A and O appearing somewhat later. But her early transitive prototype did not always include A, and she initially conflated transitive and ditransitive semantics. Wenceng’s data provides no clear evidence for a transitive semantic prototype either. She applied transitive ASRs readily to non-prototypical clauses; so the semantic prototype does not play a role in her generalization of transitive syntax, although it may have been important earlier. The data do suggest that early use of an animate Agent—inanimate Patient prototype depends on the frequency of this prototype in caregiver speech: HM used a higher percentage of prototypical transitives than WM. These results are consistent with Choi’s (1999) finding that Korean children use an OV realization with transitive verbs of all semantic types, as well as with Bowerman’s (1990) negative conclusions with respect to the importance of semantic prototypes in the acquisition of English. My findings are also consistent with Slobin’s (2001) position that children’s preferences for semantic prototypes should be located in caregiver speech rather than being inherent in the child.

The results of this study provide strong evidence for a discourse-pragmatic prototype for the transitive construction in Korean. This prototype features an A argument for a Speech Act Participant, i.e. a first or second person, that constitutes given information and is encoded elliptically or pronominally, and a third person O argument, often new or non-referential. This discourse-pragmatic prototype is instantiated by the most frequent ASRs (Figure 3), with an elliptical A and overt O (encoded as lexical nouns, interrogative pronouns, and object complements). The discourse-pragmatic prototype is sufficiently flexible that when the O refers to an object in the visual field, it is encoded with a deictic pronoun; when it is a non-referential, generic referent, it is encoded lexically.

Postulating a discourse-pragmatic prototype for the transitive construction is consistent with research on Preferred Argument Structure, which contrasts the given, non-lexical A with the lexical, sometimes new O (Du Bois, 1987). If both children and mothers have constructed a mental representation of a discourse-pragmatic prototype for the transitive construction, we can

account for more data than a semantic prototype would. Of course, some children may construct a prototype that is both semantic and discourse-pragmatic. So it may be useful to view constructions as multi-level, incorporating information from discourse, as well as from the lexicon and the semantic-syntactic clause.

Is this kind of multi-level representation characteristic only of languages with argument ellipsis, or can it be applied to all languages? To the extent that arguments of verbs are referents in discourse, speakers—children too—must construct representations that allow them to select a verb and encode its arguments with referential forms appropriate to the discourse. The acquisition of constructions entails acquisition of a system for encoding discourse referents, and integration of that system with the child's verb semantics as well as constructions such as the transitive, at clause-level. So representations underlying constructions, and their acquisition, must incorporate information about discourse-pragmatic properties of referents that typically serve as verb-arguments in clauses instantiating each construction. Languages with argument ellipsis highlight a potentially universal finding: the discourse basis of constructions. The present Korean data suggest that by age two, mental representations incorporating discourse information play a role in the acquisition of constructions.

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