Aspects of the Acquisition of (Past) Tense and (Telic) Aspect in Turkish and Korean*

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This paper examines the acquisition of tense-aspect morphology in thirty children acquiring Turkish and three children acquiring Korean. It was found that (1) both Korean and Turkish children use first past marking predominantly with accomplishment and achievement verbs, (2) those children (Korean and Turkish) frequently use the verbs which involve telicity in their past references and (3) Turkish children start using adverbs predominantly with accomplishment verbs. The acquisition of past markers shows similarity crosslinguistically. Therefore, the universality of the phenomenon must be related to a general theory of tense/aspect systems. The results show that the pattern of the development should be attributed either to children's sensitivity to the prominent final phase of result right after the telic point in aspect and/or prototype formation by children and to a certain extent to input.

Key words: aspect, accomplishment, achievement, telicity, past, acquisition, Korean, Turkish, situation (event) type, activity, state.

1. Introduction

This paper is concerned with the question whether the initial predominant use of the past tense marker by children with achievement and accomplishment verb is also the case in Turkish and Korean. We will further try to see whether it should be attributed to input (and prototype) as put forth by scholars such as Shrai and Andersen (1995) or to the salient result as claimed by C. Lee (1997). Shrai and Andersen's aspect hypothesis in first language acquisition is concerned with the pattern of language development. Their hypothesis is as follows:

(1) Children first use the past (or perfective) marking predominantly with the achievement and accomplishment verbs, eventually extending their use to activity and finally to stative verbs (Shrai & Andersen, 1995, p. 745).

This study addresses two major research questions: (1) What is the relation between inherent semantic aspectual features of the verbs and tense-aspect morphology in Korean and Turkish? So that do children give the past marking to verbs indicating observable results and verbs with a certain aspectual contour as according to Shrai and Andersen (1995)? (2) What is the relationship between verbs' inherent lexical aspect and adverbs? Is there any dependency, on using adverbs in a particular situation type on Turkish data? Related to the results of the former question, Turkish and Korean usage ratios of situation types in the data will finally be compared. Therefore, the aim of this study is to find out how the views of input and semantically striking results can be evaluated according to the Turkish and Korean data we have. First of all, we will introduce some of the major studies about the inherent lexical aspects and their features.

In section 2, the situation types depending on the inherent lexical aspect and their basic properties are summarized. Section 3 deals with the earlier studies of this subject. In section 4, in the above mentioned research questions frame, both Turkish and Korean data's quantity results are given and then due to these quality results, these situation types are exemplified. In the final part, the findings on Korean data and Turkish data are compared.

2. Inherent Lexical Aspect

Aspectual systems provide the speaker with a choice of situation type. Because a speaker may talk about the situations with more than one way. For example, a situation may be presented either as an event or a state as in the example below:

- (2) The plane was flying
- (3) The plane was in flight

The above given difference, (2) presents an activity while case (3) presents a state. These two examples represent different situation types with different temporal properties

Inherent lexical aspect refers to characteristics of inherent lexical items which describe situations. Inherent lexical aspect what Smith called as situation aspect (1983, 1986, 1991) is also a linguistic property of an actual situation. In speaking about an actual situation, the speaker makes linguistic choices. Above examples, (2) and (3) also show this difference about the speaker's linguistic choices.

There is a basic classification concerning the inherent semantic aspects of verbs. According to this classifying system, situation types are divided into two kinds: state and events. Events are further divided into activity, achievement and accomplishment by Vendler (1967).¹⁾ This classification is based on temporal properties of verbs or verb phrases, like adverbials.

2.1. Situation Types

States are stable situations and they may hold for a moment or an interval with an arbitrary final point. Smith points out that "states thus consist of an undifferentiated period. They don't change of themselves, but require an external agency for the change or out of the state" (1991, p. 37). In which the state situation type verbs have stability, and have inactivity property. This characteristic can be clearly seen from the beginning to the end of the state. Namely, another event or state causes the beginning or the ending of a state. Consequently, a change of state occurs (Comrie, 1976, p. 50). Smith also emphasizes the change of state and also points out that this changing is independent from state.²⁾ The unchangeable characteristic of state depending on time separates state from other kind of situations. Genuine pragmatic-lexical states (know, love, exist, ownetc) are per se temporally indefinite and can be defined temporally only indirectly by state-changing events or their implication (Thelin, 1990, p. 29).

The studies on difference between event and state have focused on the subject with different point of views (cf. Pustejovsky, 1995; Comrie, 1976; Binnick, 1991; Bhat, 1999; Smith, 1983; Dik, 1989; Caanepeel, 1995).

²⁾ Binnick (1991, p. 183) points out that states are naturally static, that is, unchanging throughout their duration, while activities and the like are dynamic. Binnick also stresses that all phases or stages of a state are the same, those of dynamic situations are not.

Activities are the processes that involve mental or physical activity and consist entirely in the process. "Such events have no goal, culmination or natural final endpoint: their termination is merely the cessation of activity" (Smith, 1991, p. 45). Activity verbs require energy to keep going and have successive stages. Activity situation type which has duration but with an arbitrary endpoint has been described as homogeneous in its structure (Shrai and Andersen, 1995, p. 744). Run, sing, play, dance, laugh etc. are the examples of this type of situation.³⁾

The property of involving more than one stage, which called also subevent is not merely characteristic of activity. Accomplishment, achievement verbs also bear this property (Smith, 1991, pp. 46-48). Many verb constellations change the situation type according to their noun phrase argument structures. They are activities if there is an uncountable noun phrase argument, but if the noun phrase arguments are countable, it means that they are accomplishments.

Accomplishment verbs consist of a process and out come, or change of state. The completion of the process is the change. Smith points out that accomplishments have successive stages in which the process advances its conclusion. By the result of the accomplishment a new state is seen (Smith, 1991, p. 49).

Lyons underlines that for the verbs having the accomplishment situation type character, a period of time is needed for the termination. He also emphasizes that accomplishments should reach to an end in a certain period. For instance, building a house includes the various stages of house-building as well as its completion and if you finish the building the event is completed and you can not go on with it.

Accomplishment verbs also show the telicity and action property where achievement verbs are able to be differentiated from each other within the framework of this property. Accomplishment sentences make any reference to a specific event with natural final-point. Therefore, an accomplishment sentence must have a verb constellation with a countable argument. If the object is countable, the process is finite and if not, the process is unfinite, such as activities. In term of the co-usage of accomplishment with adverbial,

³⁾ Smith underlines three main classes of activities. "One class involves an ongoing process that is unlimited in principle such as the child sleep, push a cart, laugh, think about. Other activities have uncountable internal stages (eat cherries). There are also multiple-event activities, processes with clear internal stages which themselves consist of events, such as wheel revolves (1991, p. 46).

accomplishment constrains that kind of usage with itself. Lee points out that, predicates of emotion co-occur with duration adverbial but not time-span adverbial in sense of accomplishment (1999, p. 224).

Achievements are instantaneous events that result in by a change of state, such as break, leave, recognize etc. Lyons (1990, p. 712) claims that the verbs which belong to the achievement situation type show somewhat event features. However, he also claims that as this type of verbs involve the punctual function, they do not contain any process as accomplishments while activity verbs do. Because of this function, achievement verbs are not used with the adverbial which shows process.

Erguvanl-Taylan (1996, p. 155) mentions that the most important difference between achievement and accomplishment verbs occurs in the termination periods of verbs. Two of them consists an endpoint, but the process period is different and there is also a change of state.

2.2. Basic Features of Situation Types

The situation types are distinguished by a cluster of conceptual temporal properties. These basic semantic features consist of three contrasting pairs: +/- stativity, +/- telicity, +/- durativity.

Stativity: The feature of stativity bifurcates situation types into the classes of states and events. States are the simplest of the situation types and they consist of only a period of undifferentiated moments, without endpoint. Events are dynamic. Non-stative situations belong to the class of events. Events are dynamic and involve change of state.

Telicity: Telic events have a goal depending on completion of the event. When the goal is reached, a change of state occurs and event becomes completed. This property is very important on realizing the differences between activity, accomplishment and achievement situation types. The activity verbs, as they don't have the necessity of change of state, are atelic and also accomplishment and achievement verbs, as they consist an inherent end point, are telic.

Durativity: Duration based on the notion of an instantaneous event is idealization. Comrie (1976, pp. 41-42) mentions on the differences between punctuality and stativity so that he points out that punctual states don't have a consistence of time. Therefore, because of punctual states' occurrence happens in a very short time, this kind of states don't have the inner structures.

3. Earlier Studies

The general tendency of predominant ratio of achievement and accomplishment verb classes with past marking has been widely attested by the previous studies. Bronckart and Sinclair (1973) conducted the first experimental production study on the developmental relation between tense and aspect in French. It showed that nondurative perfective events with a resultant state were described in the passe compose (perfective past) and durative or imperfective events mostly in the present. Younger children focused on the result or the goal of the action, starting to pay attention to the action itself first and then the result, following the sequence of events, as they grew.

Antinucci and Miller's (1976) study of the speech of seven Italian and one English-speaking child also reports development of past markers as aspect indicators. This comes, according to the authors, from cognitive constraints involving children's limited capacity to represent past events. Past markers are first used, according to them, as adjectives and serve to focus on the perceptible end-state of the object after a dynamic change. Stative and activity verbs, i.e., non-telic verbs, occur in the present but never in the past. Bloom et. al. (1977) is also reported to have observed that aspectual inflections depend on different classes of verbs: regular/irregular pasts occur with achievement verbs, -ing with activity verbs, -s with completive/durative verbs (statives rarely marked). Stephany's (1981) study of the development of the verbal system in Greek indicates that aspect and modality were first marked with the latter subsumed under the former. Modalized utterances were perfective. In the indicative mood, the aspectual distinction between stative and dynamic was noted to precede the temporal distinction between past and nonpast (Aksu-Koc, 1988).

In Choi and Ko $_{\zeta}$ (1998)'s crosslinguistic comparison, they have observed that, in semantic space with a variety of options for grammaticization as exemplified by Korean and Turkish, children acquire the formal distinctions in accordance with specific ways as they are related and patterned in the input.

Tense-independent inherent lexical aspects of Turkish verbs have been described by Gökmen (2000). In her study, data was obtained from 30 Turkish children aged between 2.5-4.0 which is based on categorizing the lexical aspects of the verbs according to the theory of aspect. The results

of her study show similar characteristics with the related literature and Turkish children mostly used situation type is accomplishment (40%), and second frequent one is activity (24%) based on the data. Also the usage frequency of achievement (15%) and state (17%) were obtained. The least used situation type is semelfactive.

4. Facts Telic with Past Predominant in Turkish and Korean

4.1. Turkish and Korean Data

The Turkish data dealt with in this study are gathered from face to face interaction with 30 Turkish children. Period of data collection was limited to six months. An interview was made every month with all of the subjects and every interview included 10 speech topics about daily routines of children and their kindergarten life. Periods of obtaining the data from the onsets of past markings are shown below in Table 1 for Turkish children:

Age Groups	Periods of data Samples	
1. Group	2;6.00 3;0.00	
2. Group	3;1.00 3;6.00	
3. Group	3;7.00 4;0.00	

Table 1. Periods of Data Samples for Turkish

Subjects were constructed into three groups whose ages were between 2.5-4.0. Group-1 consists of the children who were between 2.5-3.0, the Group-2 consists of children between 3.0-3.5 and Group-3 consists of 3.5-4.0. The aim in forming these groups was to get the answer to the question whether there is any distinction between the usage of situation types and adverbs depending on the different ages. It is well known that a period of six months is very important in the acquisition.

The Korean data dealt with here is from longitudinal diary studies of three Korean children based on notes taken by their parents including one author. Periods of data taking from the onsets of past marking are shown below in Table 2 for Korean.

Subject	Periods of data samples	
Hyuki (H)	1;7.06 1;9.05	
Choon-Kyu (C)	1;4.15 2;0.00	
Suh-Kyung (S)	1;2(2 nd 1;7) 2;4.18	

Table 2. Periods of Data Samples for Korean

4.2. Coding

All finite verb forms with past marking are coded according to their inherent aspect: state, activity, accomplishment, achievement. (1) When the investigators are reasonably sure about the interpretation of the sentence, determine the features of the sentences verb depending on stativity, telicity and durativity. All of the verbs coded these basic features. (2) If a verb is static, it has then also shows the event feature, accordingly, the situation types of these verbs are defined depending on whether they consist the telicity and/or durativity characteristics. The verbs that have durativity with telic characteristics were classified as activity, since the +telic verbs were classified as an accomplishment/ achievement. The verbs that have durativity with punctuality, were classified in the achievement situation type as their +telicity characteristic. (3) Another parameter in coding process is relevant to the verb's constellation. Namely, if a verb is used with an indefinite and uncountable noun phrase then it's situation type is activity and if it is used with a definite and countable noun phrase then the situation type of the verb can be either accomplishment or achievement.

4.3. Distributional Facts

If we adopt Vendler's four aspectual verb classes, as shown in the following tables, we can see that achievement and accomplishment verb classes with past marking are predominant compared with other two classes in the Korean data.

Table 3. Distribution of Aspectual Classes with PAST Marking in Korean Data [Raw token frequencies in ()]

Subject	State	Activity	Achievement	Accomplishment	Total
Н	0.9% (1)	1.8% (2)	58.2% (64)	39.1% (43)	100% (110)
C	0% (0)	0.3% (2)	51.7% (31)	45% (27)	100% (58)
S	0% (0)	5.5.% (4)	49.3% (36)	45.2 % (33)	100% (73)

In the above Korean (Table 3) data result table, we see more achievement verbs than accomplishment verbs, even though the difference is not so big. However, in Shrai and Andersen's (1995) statistics, the percentage of achievement verbs is far higher than that of accomplishment verbs. The criteria for distinguishing between the two verb classes might have been a little different or Korean children might have used more accomplishment verbs. Achievement verbs and accomplishments verbs, however, have end points or telicity in common, even though the former are punctual or instantaneous and the latter have the process part in addition, thus some scholars merge them into one class. Therefore, if we merge them, we get the following statistics for Korean:

Table 4. Distribution of Telic (achievement+accomplishment)

Verbs (token frequencies) in Korean Data

Subject	Achieve+Accomp
Н	97.3% (64+43=107)
C	96.7% (31+27=58)
S	94.5% (36+33=69)

However in the Turkish data, there is a slight difference in respect of the results. In the Turkish data, accomplishment verb class with past marking is more predominant than other classes. The activity situation type is used more than the achievement. There is a contrast in Korean and Turkish in terms of using the past marking. And also in Turkish, state and achievement situation types using percentage results are the same. Moreover, percentages of state, activity and achievement situation types are very close to each other.

Table 5. Distribution of Aspectual Classes with PAST Marking in Turkish Data

Situation Type	Percentage	Frequency
State	16%	63
Activity	17%	68
Achievement	16%	61
Accomplishment	51%	198
Total	100%	391

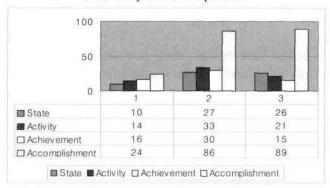
When we look at the Turkish data results, accomplishment verbs show the percentage of 51%. This high percentage in past marking, enables us to make the following assumption: Children use generally accomplishment verbs on Turkish on the base of this study's data. In addition, if we merge the achievement and accomplishment verbs into one class, we get the following statistics for Turkish:

Table 6. Distribution of Telic (achievement+accomplishment) Verbs (token frequencies) in Turkish Data

Age Groups	Achieve+ Accomp	
1. Group	63% (16+24=40)	
2. Group	66% (30+86=116)	
3. Group	69% (15+89=104)	
Total 66% (40+116+104=260)		

In Graphic 1 given below, the usage frequencies of the situation types, according to the age groups, is shown:

Graphic 1. Age Groups Usages of Situation Types with their Respective Frequencies

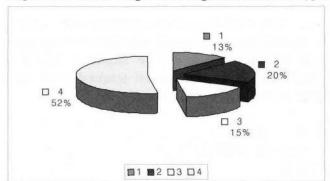


In accordance to the age groups, there are some comparable differences in term of the ratio of situation types usage by children. Depending on the different age groups, variability of situation type's usages were obtained as shown below:

- Accomplishment is commonly the most used situation type in all age groups
- b. The secondarily most used situation type is not identical for the all age groups e.g. in Group-1, while achievement is the secondarily most used type, in the Group-2 the activity and in the Group-3, the state type was found as secondarily most used situation type.

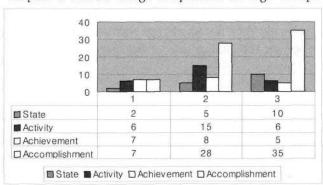
- c. It was observed that the state situation type was used with more or less same percentage in all age groups.
- d. The usage of achievement shows decreasing as child grows up.

It should be noted that even though Vendler's proposal was for verb classification, this classification can not be done without the verb's argument structures such as adverbial etc. In the Turkish data the usage of adverbial was analyzed. At the end, it was seen that 134 adverbial were used in past marking. Graphic 2 shows the results.



Graphic 2. Adverb Usage Percentages in Situation Types

52% of the adverbs were used with accomplishment verbs. This is a very high percentage. State sentences were also obtained as the less used of adverbs. When we looked at the age groups using adverbs, we also see many variables.



Graphic 3. Adverb Usage Frequencies for Age Groups

The graphic 3 shows the usage of situation types frequencies depending on the age groups. So according to the above graphic the results shown below were obtained.

- a. In the accomplishment type, the usage of adverbs show an increase as the child grows up.
- b. The frequency of adverb usage on Group-2 and Group-3 are the same. There is also a very big increase in using adverbs when Group-1 and Group-2 are compared.

4.4. Examples of "Verb Types Used with Past" (-DI) in Turkish

Let us, then, observe what verb types with the past marking occur in Turkish. All the verb types that occur with the past tense marker in the speech of 30 Turkish children will be illustrated. Lexical states are temporally indefinite and can be defined temporally only indirectly by state changing events or their implications.

- (4) Hasta ol -du -m. sick was PAST 1.PRS. SUF.4) 'I was sick'
- (5) Ben de öğretmen ol -ma -d₁ 5) -m. I too teacher be NEG PAST 1.PRS. SUF. 'I did not be a teacher, either.'

Above examples (4) and (5) show state sentences in Turkish child utterances and they are closed to the temporal properties. Hasta ol- 'be sick' öğretmen ol- 'be a teacher' situations consist of an undifferentiated period and normally they do not change themselves. Also they require an external agency for the change into or out stage.

⁴⁾ The following abbreviations are used in the glosses: 1. PRS. SUF.=1. Person Suffix, NEG=Negative, LOC=Locative, PL=Plural, GEN=Genetive, ACC=Accusative, DAT=Dative, NP=Noun phrase, 1. PRS.PL.SUF=1. Person plural suffix, TOP=Topic marker, DEC=Declarative.

⁵⁾ In Turkish, past tense suffix -DI have eight allomorphs. These are, - d_1 , - d_1 , - d_1 , - d_2 , - d_3 , - d_4

- (6) Sonra ben or(a) -da çok ye -di -m. then I there LOC very eat PAST 1.PRS. SUF. 'Then I ate very much there'
- (7) Bi(r) çay iç -ti -m, ekmek ye -di -m. a tea- drink PAST 1.PRS. SUF. bread eat PAST 1.PRS. SUF. 'I drank a glass of tea and ate bread'

Such activity events like ye- 'eat' iç- 'drink', have no goal or natural final point like accomplishments. Activity verbs also have successive stages, take time and require energy to keep going. In sentence (6), there is also an adverb çok 'too much' is indefinite and uncountable. These features show that there is an arbitrary endpoint. Because eating too much is a relative fact. Ye- and iç- have no natural final point, because these verbs could continue indefinitely. The verb is being telic or atelic event due to the requirement of countable argument structure. But in (7), bir 'one' or 'a' is a kind of quantity expression and consists the countable argument in Turkish. Thus, the verb phrase 'bi(r) cay ic' should be accomplishment for it constitutes a countable quantity and time limited function. Since drinking a glass of tea can occur with 'in two minutes'. Above examples also contain telicity in the past case of Turkish.

(8) Ev -de öksür -dü -m. home LOC cough PAST 1.PRS. SUF. 'I coughed at home'

Verb öksür- 'cough' inherent lexical aspect is activity because of showing this verb the repetation. This kind of repetation verbs effect adverbs which used in the sentence. In Turkish data, none of these usages could be found. In above sentence, verb öksür- belongs to activity situation type. The possibility of multiple events make activity the most varied of the event types. In Turkish if the child uses this verb in a sentence like this, 'Evde yavaşça öksürdüm', the adverb yavaşça 'slowly' presents a duration rather than instantaneous. And now lets look at this sentence, 'Evde 5 dakika öksürdüm'. In this sentence, the adverb, 5 dakika '5 minutes' indicates temporal location as well as completion.

- (9) Bant $yap_1 st_1 r d_1$ -lar. Ağla - d_1 -m biraz tape stick PAST PL cry PAST 1.PRS. SUF. a little 'They sticked the tape. I cried a little'
- (10) Ö(ğ)retmen dün şark ö(ğ)ret -ti. Biz söyle -di -k. Çok teacher yesterday sing teach PAST we sing PAST 1.PRS. PL.SUF. very gül- dü- k. laugh- PAST-1.PRS. PL.SUF.

 'The teacher thaught a song yesterday. We sang it. We laughed very much'

These kind of verbs, like gül- 'laugh' and ağla- 'cry', involve an ongoing process that is unlimited in Turkish. Examples (9) and (10) consist two different adverbs *biraz* 'a few', *çok* 'much' shows uncountable stages, but also a limited time. Limited time relatively causes these verbs are being called as the activity.

- (11) Çiftlik -te de yürü -dü -m. farmLOC too walk PAST 1.PRS. SUF. 'I walked at the farm, too.'
- (12) Ben kendi başıma simid -im -le yüz -dü -m. I lonely life-boat GEN INST swim PAST 1.PRS. SUF. 'Lonely I swam alone with my life-boat'

Since an activity consists of homogeneous stages, there is no difference in kind between a proper part and the entire event. Yürü- 'walk' is a classical activity verb firstly because it does not embody a goal, and secondly it has an arbitrary final point. But these kind of verbs like yürü- 'walk', yüz- 'swim', are affected by an adverb and depending on adverbials property, verb situation type can be changed. In sentence (11), there is not any goal for walking somewhere and also in example (12) there is not any goal for swimming to some where, like to walk home or to swim to the other beach. In occasion that the verb yürü- is used as Eve kadar yürüdüm 'I walked till the home', then the verb's situation type may change because of the eve kadar 'till the home' noun phrase property.

- (13) Hiç bir şey konuş -ma -dı -k. any thing talk NEG PAST 1.PRS. PL. SUF. 'We did not talk anything'
- (14) Teyp -te dinle -di -k.
 cassette player LOC listen PAST 1.PRS. PL. SUF.
 'We listened it at the cassette player'

In examples (13) and (14), the situation types are activity because of including the process property. But they could not involve change of state or there is not any endpoint, but only arbitrary final point. (14) consists a final point. This sentence means that the listening activity was finished in a limited time.

(15) Dedem -ler -de oyna -d₁ -m. grandfather PL LOC play PAST 1.PRS. SUF. 'I played at my grandfather's home'

Oyna- 'play' is the most used verb in all of the data which includes many properties of activity verbs, such as having arbitrary endpoint, having no goal. And it does not have an associated outcome or change of state. Someone who wants to stop playing he can, but that does not mean that he has actually finished playing.

- (16) At -t₁ -m o -nu duvar -a k₁r₁l -d₁. throw PAST 1.PRS. SUF. ₁t ACC wall DAT break PAST 'I threw it to the wall and it was broken'
- (17) Şapka -m -1 düşür -dü -m. hat GEN ACC drop PAST 1.PRS. SUF. 'I dropped my hat'

Achievements are instantaneous events that come to a result by changing of the state. Achievement verbs present an event consisting of a single stage which constitutes a change of state. The above examples show the typical achievement situations because k_1r_1l - 'break', du_5ur -'drop', occur very quickly. When the buckle was thrown to the wall an affected object can be seen, and when someone (something) falls to the

pool, an affected object such as broken buckle (16) or wet hat (17) may be seen. When a wall breaks something actually occurs to the molecules, which could be demonstrated on a slow motion film like (16).

- (18) Sonra ben kus -tu -m yol -da. then I vomit PAST 1.PRS. SUF. way LOC 'Then I vomitted on the way'
- (19) Ben bi kere demir (merdiven) -den zıpla -dı -m, I one time stairs ABL jump PAST 1.PRS.SUF. havuz -a düş -tü -m. pool- DAT fall-PAST-1.PRS. SUF. 'One time I jumped from the stairs, I fell to the pool'

Above examples (18) and (19) include typical instantaneous features and show affected experiencers which were affected by the event. Z_1 pla'jump' and d_{us} - 'fell' verbs starting time and finishing time happens at the same time period depending on their inherent lexical aspects'.

(20) Bir tane balon patla -d₁.

NP balloon burst PAST

'One balloon burst'

Above example (20) also includes instantaneousity but, in contrast with (16) and (17), shows a consumed object which means achievement. In the result state, when the balloon is burst, it causes a consumed objects.

- (21) K₁rm₁z_{1 1}s₁k yan -₁nca ben de geç -ti -m.
 red light turn on when I too cross PAST 1.PRS. SUF.
 Cjttt diye geç -ti -m.
 Onomatopaeia cross PAST 1.PRS. SUF.
 'When the red light was on, I crossed the street. I crossed the street very quickly'
- (22) Zor yakala -d₁ -m.
 Difficult catch PAST 1.PRS. SUF.
 'I caught it very difficult'

Crossing the street (in 21) and catching the lamb (in 22) occur very quickly. Thus, the two verbs' (geç- 'cross' and yakala- 'catch') lexical aspects are achievement as it can be seen in (21) and (22).

- (23) Ben bir kere (parka) git -ti -m.
 I one time go PAST 1.PRS. SUF.
 'I went to park one time'
- (24) Biz -e gel -di. we DAT come PAST 'She came to us'

Above examples between (23) and (24) have been constructed by *git*'go' and *gel*- 'come' verbs. These two verbs include typical property of
accomplishment situation type. Because, both (23) and (24) has the completed
processes. The change is the completion of the state. When these processes
were completed, then you are unable to continue, but the completion
doesn't constrain the repeating of the event. If you go home or arrive
anywhere, the event is completed: it means that it has reached its final stage.

- (25) Anne -m bana cevizli kek yap -tı. mother GEN me walnut cake bake PAST 'My mother baked me a walnut cake'
- (26) Bizim piknik -te yemek yap -t₁ -k..... our picnic LOC meal cook PAST 1.PRS. PL.SUF. 'We cooked a meal at the picnic'

In (25) and (26), the new state of affairs may affect the objects and then establish the constructed objects. These constructed objects, such as, *yemek yap*- 'cook' and *cevizli kek yap*- 'bake a walnut-cake', are complete in themselves. In addition, these two events are telic. The final point of an accomplishment event differs essentially from the preceding stages: it is completion of the event, a change of resultant state. All of the stages are different than the others.

(27) Ö(ğ)retmen dün şark ö(ğ)ret -ti. Biz söyle -di -k. Çok teacher yesterday sing teach PAST we sing PAST 1.PRS. PLSUF very gül -dü -k. laugh PAST 1.PRS. PL.SUF 'The teacher taught us a song yesterday. We sang it. We laughed very much.'

When a song is taught, that means there is a song being taught. So the transfering of situation from the state of unknown to the state of known is realized. In addition, as *öğret*- 'teach' verb involve the telicity, which means final point, it is placed in the accomplishment situation type as it can be seen (27).

(28) Bana iki kere aşı yap -tı -lar. Hem de kan me DAT two times inoculate PAST 3.PRS. PL.SUF. also too blood al -dı -lar. Bant yapıştır -dı -lar. take PAST 3.PRS. PL.SUF. tape stick- PAST 3.PRS. PL.SUF. Ağla -dı -m da biraz cry PAST 1.PRS. SUF. also a little 'They inoculated me for two times. Also they took the blood. They sticked the tape. I also cried a little.

In the above example (28), consumed object and effected experiencer features can be seen. When the inoculation is completed you can see a change of state. Thus a_{SI} yap 'inoculate' verb is evaluated in accomplishment situation type.

(29) Memoli seyret - ti -m.

Memoli watch PAST 1.PRS. SUF.

'I watched Memoli (TV character)'

The verb *seyret*- 'watch' is an activity verb since it has the characteristic of process. For, any change of state or an end point does not occur at the completion stage of this verb. It reaches an arbitrary end point. Otherwise, the usage of an indefinite noun would change the verbs' lexical aspect into the activity type. But in (29), verb is used with a definite noun phrase (*Memoli*) and dependent to the noun phrase, seyret- verbs' situation type is changed from activity to accomplishment.

(30) Ama taşın -dı -k şimdi yeni ev -e. but move PAST 1.PRS PL.SUF. now new home DAT 'But we moved to our new home'

 $ta_{SI}n$ -'move' is completely an accomplishment verb and in all cases in Turkish, it may protect the accomplishment feature. When this event is completed you can not go on, as there is also change of state. The adverb simdi 'now' refers to the past. Because the moving event has occurred before the speech time.

4.5. Examples of Verb Types Used with PAST (-ess-) in Korean

Let us, now, observe the situation types of the verbs with past markings in the Korean language. All the verb types that occur with the past tense marker in the speech of three Korean children is shown below:

(31) ppangppangi chac -ess -e car find PAST END 'Found the car' [achievement] (/[activity 'look for'])

Note that the transitive verb chac-ta find' in (31) was used in its achievement interpretation, not in its activity interpretation. It may be the case that the verb is underlyingly underspecified as to its aspectual class; if it denotes the initial aspect of the process of trying to find, then it becomes an activity verb, and if it denotes the final resultative aspect of finding something, then it becomes an achievement verb. As a consequence, the following utterance with two occurrences of the verb is possible without creating a contradiction:

(32) kyengchal -un pemin -ul sek tal tongan chac -ass -una kyelkuk police TOP criminal ACC 3 month for look for PAST but at last mot chac -ass -ta not find PAST DEC

'The police looked for the criminal for three months but couldn't find him/her at last'

Expectedly, if the verb is used in the progressive and or with manner adverbs, then its only reading is the activity reading, since the

instantaneous telic sense and the agentive process sense of the achievement reading are not compatible with the progressive and manner adverbs, respectively. It is extremely significant that the first occurrence of the verb under discussion plus past was used in its achievement interpretation, not in its activity interpretation. Even in adult Korean, the past-marked verb chac-ess-ta tends to be interpreted in achievement.

- (33) mal -ess -e dry PAST END '(It) dried' [achievement]
- (34) tal ttu -ess -e moon rise PAST END 'The moon rose' [achievement]

Two more verbs above (in 33, 34) are achievement verbs. The verb *maru-ta* 'dry' is an achievement verb with telicity but can have a gradual process and may allow for the progressive but not volitional manner adverbs. It is an unaccusative verb syntactically. When it occurs in the past, the state has changed and the theme is already dried up. The verb ttu-ta 'rise' is another achievement and unaccusative verb. It is hardly used in the progressive.

- (35) tter-e -ci -ess -e fall get PAST END 'Fell down' [achievement]
- (36) yuri kkay -ci -ess -e glass broken get PAST END 'Glass has been broken' [achievement]

Above, tter- 'fall down' and *kkay*- 'break verbs carry the characteristics of achievement, for these verbs show a sudden realization in terms of their contents. By the realization of *tter*- 'fell', the affected experience and by the realization of *kkay* 'break', consumed object forms in (35) and (36).

(37) tay -ss -ta become PAST END 'Done', 'Became', 'I succeeded' [achievement]

- (38) senphungki kkut-na -ess-e fan get finished PAST END 'Fan is finished' [perfective aspect verb mobilized] [achievement]
- (39) tay -ss -ta done PAST DEC 'Done' [achievement]

Although the completing of an action such as (38) or the situation of 'done' as in (37), (38), (39) needs a long time period, however, the final point occurs in a very limited period of time.

- (40) epse -ci -ess -ney disappear get PAST SURPRISE 'Disappeared' [achievement]
- (41) kkamccak nol -ass -ney shockingly get surprised PAST SURPRISE 'I am surprised' [achievement]

Epse 'disappear', in (40) and *kkamccak* 'surprise' in (41) verbs occur in a very short time period. Therefore, these verbs were included under the heading of achievement situation types. Moreover the punctuality of these kinds of verbs bear the most prominent characteristics.

- (42) ccic -ess -e-yo tear PAST END '(I) tore (it)' [accomplishment]
- (43) ccic -ess -e tear PAST END 'Tore' [accomplishment]
- (44) ccic -ess -ta tear PAST DEC 'Tore' [accomplishment]

Three more verbs above (42), (43), (44) are change of state accomplishment verbs. Also, consumed object occurs in ccic 'tear' verb's

result in state The thing which is being torn is affected by the event.

- (45) tat -ess -e -yo close PAST END 'Closed' [accomplishment]
- (46) anc -ess -e sit PAST END 'Sat' [accomplishment]
- (47) emma cap -ass -e mommy catch PAST END 'Caught Mommy' [accomplishment]

In the above samples, the occurrence of change of state leads to the meaning of the completion of an event. Closing something which is open (45) and someone's changing his situation from standing up to sitting down (46) shows the change in any state. Moreover, resulting from the change in situation, (45) has an affected object and (46) has affected experiencer. In (47), by the realization of cap 'catch' verb, a completed event occurs so that the change of state feature can be seen.

(48) ta mek -ess -e all eat PAST END 'Ate it up' [accomplishment]

In example (48), there is also an added completion adverb. So, adverb ta 'all' makes verb perfective. Above in (48), eating something up shows at the same time that the action has been completed.

(49) 'yo' hay -ss -e do PAST END '(I) said '-yo', (I) said 'bye" (-yo from annyenghasey-yo 'Goodbye')

When the speech act verbs such as *say*, *tell* are used in the past meaning, they show accomplishment situation feature. So when something is being said or told, the aim becomes attained so that the change of state occurs. Above example (49) shows this situation.

- (50) big bird chum chu -ess -e dance dance PAST END 'Big bird danced' [activity]
- (51) innye ur -ess -e doll cry PAST END 'the doll cried' [activity]

Only two verbs in (50) and (51) used in the past form show the *activity* characteristic. As it is known, activities are processes that involve physical or mental activity and consist entirely in the process. According to this definition, (50) *chum chu-* 'dance' and (51) *ul-* 'cry' verbs involve ongoing process that is unlimited in principle. These sentences in the perfective viewpoint, present activities as bounded, that's with an arbitrary end points.

4.6. Adverbs in the Past Reference in Turkish

In this study, adverbs which effect the situation types of a sentence were investigated in four categories. These categories can be stated as the following: Time adverbs, frequency adverbs, quality adverbs and quantity adverbs. Below Table 8 shows the adverbs which are used in Turkish data.

Table 8. Adverbs which were used in Turkish Children Past Data

Adverb Type	Adverbs	
Temporal	Eskiden 'in the past', önceden 'beforehand', küçükken 'wl I was child', büyüyünce 'when I grow up', köydeyl 'when I was in cottage', sabahleyin 'in the morning', so 'then', bugün 'today', şimdi 'now', devamlı 'always', zaman 'that time', bebekken 'when I was baby', ya 'tomorrow', kahvaltdan sonra 'after the breakfast', akşamı 'afternoon', geçen gün 'laşt day', geçen sene 'last year', ya sabah 'tomorrow morning', hemen 'at once', daha 'yet', kere daha 'one more time', bir daha 'one more', daha öı 'before', birgün 'oneday', bir keresinde 'at one time', yokl 'when he/she was not at somewhere', I'de 'at I o'clock', 'at 3 o'clock'	
Frequency	hi_{ς} 'any', bir kere 'for one time', iki kere 'for two times', üç kere 'for three times'	
Quality	şöyle 'like that', böyle 'like this', az kalsn 'before long', geri geri gelince 'when it comes back', kendi başıma 'by myself'	
Quantity	bir sürü 'many', bir tane 'single', çok 'many, much', çok çok 'many many, much much', biraz 'some', hiç birşey 'anything'	

Depending on the results, temporal adverbs which combine with tense to specify the location of a situation in time, are the most used adverbs in Turkish data, and also, temporal adverbs were mostly used with accomplishment verbs in the sentences. They also contribute to the aspectual maning of a sentence. Quantity adverbs were used both with achievement and accomplishment verbs. All types of adverbs were used with all situation types.

When we look at the Turkish child data, we notice some constraints on using adverbs with situation types. Some adverbs can not be used with a specific situation type. We want to figure out how these constraints occur within child language and in which basis these usages become possible. The above table covers information on which adverbs are used with which situation types. In order to get these constraint conditions, the adverbs used in our data are taught to be used in sentences which embody verbs in different types of situation and the acceptability of these usages will be examined. The adverbs used in samples will only be in the frame of our data and some of them will be choosen randomly.

Some of the adverbs are not suitable with all situation types. In some certain circumstances, the inherent lexical aspect of a verb can constrain the usage of an adverb depending on the situation type.

Eskiden 'In the past'

- (52) Eskiden sev-di-m In the past love-PAST-1.PRS.SUF. 'I loved he/she/it in the past' [state]
- (53) ?Eskiden bil-di-m
 In the past know- PAST-1.PRS.SUF.
 'I knew it in the past' [state]
- (54) Eskiden oyna-d₁-m In the past-play- PAST-1.PRS.SUF. 'I played in the past' [activity]
- (55) Eskiden yap-t₁-m In the pastdo- PAST-1.PRS.SUF. 'I done it in the past' [accomplishment]

- (56) ?Eskiden öl-dü-m
 In the past die- PAST-LPRS.SUF.
 'I died in the past' [achievement]
- (57) Eskiden k₁r-d₁-m In the past break- PAST-1.PRS.SUF. 'I broke it in the past' [achievement]

Though *eskiden* 'in the past' adverb can be used accomplishment and activity verbs. In some bases, *eskiden* are not to be used with state and achievements depending on the verbs' inherent lexical aspect. In child language data, it can be easily seen that *eskiden* can only be used with the verbs which belong to the achievement and accomplishment verbs. In adult language using this adverb with achievement verbs are causes ambiguity depending on the context. The usage of this adverb by children is shown below.

- (58) Eskiden sokağ-a çık-t₁-m. [achievement] In the past go out- PAST-1.PRS.SUF. 'I went to outside in the past'
- (59) Biz eskiden hayvanat bahçe-si-(n)-e git-ti-k. [accomplishment] We in the past zoo-ACC-DAT go- PAST-1.PRS.SUF. 'We went to the zoo in the past'

As it is given in (58) and (59), the sentences are built by achievement and accomplishment verbs. This adverb that is used with a verb to show an action which was done and completed, has telicity characteristic. The similar constraint characteristic feature can also be seen for the usage of $k\bar{u}c\bar{u}kken$ 'when I was a child' adverb.

Küçükken 'When I was a child'

- (60) Küçükken sev-di-m when I was child love- PAST-1.PRS.SUF. 'When I was a child I loved him/her/it' [state]
- (61) Küçükken bil-di-m when I was child know- PAST-1.PRS.SUF. 'When I was a child I knew it' [state]

- (62) Küçükken oyna-d₁-m when I was child play- PAST-1.PRS.SUF. 'When I was a child I played' [activity]
- (63) Küçükken yap-t₁-m when I was child do- PAST-1.PRS.SUF. 'When I was a child I did it' [accomplishment]
- (64) ?Küçükken öl-dü-m when I was child die- PAST-1.PRS.SUF. 'When I was a child I died' [achievement]
- (65) Küçükken kır-dı-m when I was child break- PAST-1.PRS.SUF. 'When I was a child I broke it' [achievement]

In data it was seen that this adverb (küçükken 'when I was child') is only used with accomplishment situation type. Ben küçükken babam beni kucağına alıp yüzdürdü 'When I was child, my father made me swim'. In this sentence, küçükken shows yüzdür- 'swim' verb's time interval. It's seen that şimdi 'now', sonra 'then', önce 'before' adverbs have comparably wider usage compared with the others. Therefore, it was observed that children have used these adverbs with all kinds of situation types. The usage frequency of these adverbs with accomplishment and activity verbs are more than the others. The usages within the sentences are shown below.

Şimdi 'Now' Sonra 'Then'

- (66) Sonra git-ti.
 Then go- PAST-Ø
 'Then he/she/it went' [accomplishment]
- (67) Şimdi taşın-dı--k yeni ev-e now move- PAST-3 rd PRS. PL.SUF. new home-DAT 'Now we moved new home' [accomplishment]
- (68) Şimdi oyna-d₁-k. now play-PAST-3 rd PRS. PL.SUF. 'We played now' [activity]

The time-span adverbs *geçen gin* 'last day', *geçen sene* 'last year', can be used with all situation types as above mentioned adverbs. According to our child language data, these adverbs were used with in activity and accomplishment.

Geçen sene 'Last year' Geçen gün 'Last day'

- (69) Ben oyuncak-lar-₁m-la oyna-d₁-m geçen gün I toy-PL.-GEN.-with play- PAST-1.PRS.SUF. 'Last day I played with my toys' [activity]
- (70) Geçen sene gel-di-k last year come- PAST-LPRS.SUF. 'We came last year' [accomplishment]

Time-span adverbs like *l'de* 'at one o'clock', 3'*te* 'at 3 o'clock' can be widely used with achievement and accomplishment verbs which have the telic characteristic. But it was observed that these kind of adverbs were only used with achievement verbs in our data. It can be seen in (71).

(71) 1'de kalk-t₁-m at 1 o clock wake up- PAST-1.PRS.SUF. 'I woke up at 1 o'clock' [achievement]

Frequency adverbs which contain a limited time like *bir kere* 'for one time', *iki kere* 'for two times', u_{ζ} kere 'for three times' show also flexible usage depending on the situation types. However, these kind of adverbs have a seldom usage with state verbs which show duration. Hi_{ζ} 'any' adverb which has the negation feature can be used with all situation types. In (72)-(74), these adverbs usage can be seen.

Bir kere 'for one time', iki kere 'for two times', üç kere 'for three times'

- (72) Annem bi(r) kere k_1r - d_1 tabağ-1 [achievement] My mother for one time break-PAST $-\emptyset$ plate-ACC. 'My mother broke a plate for one time.'
- (73) Ben hasta ol-du-m bir kere [state]
 I sick become- PAST-1.PRS.SUF. for one time
 'I became sick for one time'

(74) Biz bi(r) kere doktor-a git-ti-k [accomplishment] we for one time doctor-DAT. go- PAST-3 rd PRS.PL.SUF. 'We went to the doctor for one time.'

Adverbs which show quality, such as *kendi başıma* 'by myself', is used with generally telic verbs and with some activity verbs. In our data, it was seen that, these adverbs were used with activity or accomplishment verbs. Examples (75) and (76) show these kinds of adverb usage.

Kendi basıma 'by myself', geri geri gelince 'when the car comes back'

- (75) Ben kendi başıma simid-im-le yüz-dü-m [activity] I myself life-belt-GEN.-with swim-PAST- lrd. PRS. SUF. 'I swam alone with my life-belt.'
- (76) Araba geri gel-ince biz-e çarp-t₁. [achievement] the car back come-when we-DAT. hit-PAST 'The car hit us when it came back.'

Bir sürü 'many', bir tane 'single' çok 'much, many', biraz 'some' show both abstract and concrete quantity and are used with all kind of situation types. In the below given examples in (77) and (78), the usage of these kind of adverbs are shown based on our data.

Bir sürü 'many', bir tane 'single', cok 'much, many', biraz 'some'

- (77) Bir tane balon patla-dı [achievement] a balloon burst-Past- PAST-1.PRS.SUF.
 'A balloon burst'
- (78) Ağla-d₁-m biraz [activity] cry-Past- PAST-1.PRS.SUF. a little 'I cried a little'

According to our data, constraint occurrency of some adverbs depending on usage was mentioned above. However, for observing that which adverb can be used with which situation type(s), there is the necessity of a wider database. Our findings are only within the database of this study.

5. Conclusion

Children are universally sensitive to events with clear end-points and such events are well represented by telic verbs with perfective marking. (Consider the N/V acquisition issue in this connection in which N is found to be acquired earlier than V in general; the category of N is more delimited and stable). Children may have less (agentive) control over the whole situation than adults and thus perceive the salient change of state/location subevents aspectually and even the object (Theme/Patient) is at one stage assigned nominative case rather than accusative case by them 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 it were function application in saturation of incoming argument variables. This competence must be universal and somewhat biologically conditioned.

Korean: The study shows that the past tense-marking occurs with 67 *achievement* verb tokens plus 43 *accomplishment* verb tokens (96% together), 2 *activity* verb tokens and 1 state predicate token out of the total 110 tokens in one child; 31+27 (96.7%), 2, 0 out of 60 in the second child; 36+33 (94.5%), 4, 0 out of 73 in the third child. It is clear that Korean children also first use past marking predominantly with *achievement* and *accomplishment* verbs (e.g., *tay-ss-ta* 'done', *ttereci-ess-ta* fell (down)', *ccic-ess-e* 'tore', etc.).

Turkish: The results show that the past marking occurs with 198 accomplishment verbs token plus 61 achievement verbs token (66% together), 68 activity verbs token (17%) and state 63 verbs token (16%) out of the total 40 (16 achievements+24 accomplishments) token in Group-1, 116 (30 achievements+86 accomplishments) verbs token in Group-2 and 104 (15 achievements+89 accomplishments) verbs token in Group-3. It is clear that Turkish children also first use past marking predominantly accomplishment verbs (e.g. yemek yap- 'cook', git 'go', gel 'come'). When we look at the usage of adverbs: 134 adverbs usage was defined. 52% of them were used with accomplishment verbs. 20% of them were used with activity, 15% of them were used achievement and 13% of them were used in state verbs.

In this crosslinguistic comparison, we have observed that children frequently use the verbs which involve telicity in their past references. Korean children's telic (accomplishment and achievement) usage ratio is 96% whereas Turkish children's is 66%. The result showing the ratio of Turkish children's usage is considerably less than Korean's can be described as the general tendency: children's telic usage decreases depending on growth. Probably, developing in language capability in parallel to growth causes this meaningful ratio difference.

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