Converbs in Turkish child language: The grammaticalization of event coherence

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1. Introduction

Turkish, as a typical OV language, makes use of clause-chaining constructions in which one or more nonfinite clauses are followed by a finite clause. For example, the most ancient and widespread clause-chaining form in the Turkic languages is some version of -ip, as in the following Old Turkish example (Gabiın 1950):

(1) ālit-ip nıq-ar big
  hear-converb understand-pres we
  'we hear and (then) understand'

Such a form is commonly referred to as a convert, gerund, or deverbal adverb in Western European and American grammars of Turkish, deşparatiш in Russian, and nıfr in Turkish. I will refer to such forms as convers, in accord with the useful attempt of the editors of this volume to achieve terminological clarity. Converts are derived from verbs and carry out functions of adverbial linking or conjoining between clauses. Since absolute tense is carried only by the main clause in such constructions, the conjunct clause indicates relative tense with regard to the main clause. As Johanna Nichols has pointed out (1983: 246): "The basic opposition in all convert systems is simultaneous vs. anterior ...: a simultaneous convert can be translated 'while verb-ing', an anterior one 'having verb-ed'."

In this paper I examine the four most frequent convers in Turkish (shown in Table 1) and propose that more than temporality is involved in their use — when they are considered in their discourse contexts and in terms of their acquisitional histories. All four forms are frequent in both speech and writing, yet one of them is mastered much later than the others. This one is also the most recent to have entered the language. These are clues to the special characteristics of that form. I suggest that it functions to frame a global event in narrative and that this is a distinct sort of cognitive function.
2. Converbs in Turkish child speech

The present study is part of a larger, crosslinguistic investigation of the development of temporality in narrative, designed in collaboration with Ruth Berman of Tel Aviv University, and carried out in Turkey, Israel, the United States, Germany, and Spain (Berman–Slobin 1994). The method consists of asking speakers to tell a story on the basis of a picture book, *Frog, where are you?* (Mayer 1969), that presents a story without words. Stories were gathered from children of ages three, four, five, seven, and nine; and from adults. The action centers on a boy whose pet frog has escaped. The boy and his dog go searching for the frog in a forest, encountering various animals and undergoing a series of adventures before finally finding the frog. The plot is full of causal and temporal sequences, surprises, and switches of attention between the overlapping endeavors of the boy and the dog. This makes it fertile ground for the use of various clause-constituting devices.

Table 1 presents rough meanings of the four converbs studied, along with some statistics. The important point of Table 1 is that all four are well represented in speech directed to children as well as in children's own speech. I will refer to the four converbs — which have varying forms, according to vowel harmony — as *-inve, -erken, -iφ, and -erok.*\(^2\) *-inve* and *-erken* indicate succession and simultaneity, respectively, and allow for either same or different subject in the two clauses. *-iφ* and *-erok* allow only same subject. Of these, *-iφ* is the most neutral converb, serving as a simple coordinator; *-erok* is the form calling for detailed examination in this study. The columns of Table 1 give relative frequencies of the four converbs in three kinds of texts. The first is a sample of Turkish books written for preschool children; the second is a sample of ten adult narrations of the "frog story"; and the third is a sample of 30 child narrations of the same story, summarizing across ages three, five, and nine, with ten narrators in each group. Although individual frequencies of the converbs vary with the type of text, it is evident that children both hear and use all four forms; therefore different patterns of acquisition and use cannot be attributed to simple frequency of occurrence.

A developmental analysis of use of the four converbs presents a rather different picture from the overall pattern shown in Table 1. Table 2 shows the percentage of narrators at each age level who make use of a given converb at least once to appropriately connect two clauses.\(^3\) It is striking that *-inve, -erken,* and *-iφ* appear as early as age three, and increase by age four, while *-erok* is not appropriately used by a single narrator younger than seven. (There are a few inappropriate uses by four- and five-year-olds, examined below; and no uses at all by three-year-olds.) This is the central question of the study: Why is *-erok* frequent in speech directed to children, yet virtually lacking in their own speech throughout the preschool period?

These figures can be compared to the use of converbs in the spontaneous speech of even younger children, beginning with age 2:0. (Ages are given as years, months.) These are samples from an earlier study of 44 children between the ages of 2:0 and 4:8 (Slobin 1982). The samples, of about a half-hour each, were recorded in semi-structured interaction with a native-speaking female investigator in Istanbul. Opportunities for clause chaining were rare, unless the child happened to volunteer a brief narrative or description of a temporal or causal sequence. Table 3 summarizes the occurrences of converbs in these samples. The developmental pattern of the frog stories seems to be supported in
these spontaneous speech samples. -jp, which increases fourfold between ages three and four in the frog stories, is not used by any two-year-old; -erek is used only once in the entire sample of 44 preschoolers. It is used in this instance to express manner of action, which — as proposed below — is probably the least complex of its varied functions. The investigator is urging a girl of age 3;0 to be quick in recovering a toy from her room, so that they can read a story. The child responds:

(2) Geliyorun, sabık züriy-erek gideceğim. [age three]
come:PRES:1SG quick walk:erek go:PRF:1SG
'I'm coming, quickly walking I'll go.'

The only converbs used by two-year-olds are -ince and -erek, suggesting that the meanings of these forms may be most accessible on cognitive grounds. The following section examines attempts to specify such meanings.

3. Meanings of the Converbs

3.1. -ince and -erek

Of the four converbs considered here, the meanings of -ince and -erek are most clearly specialized for temporal linkage. Their temporal meanings are quite straightforward, and are adequately and succinctly characterized in Turkish grammars.

3.1.1. -ince

Underhill (1976: 381) defines -ince as "as soon as", or, with less urgency, "when"; and Lewis (1967: 179) refines the temporal relation as "action just prior to that of the main verb." The first event in an -ince linkage must have a right temporal boundary; the second event can be bounded or unbounded, without affecting the reading of the temporal relation between the two events. There are no coreference restrictions between the two clauses. The only possible interpretation is that the onset of the second coincides with the end of the first event. The following three examples from the frog stories are indicative of the range of possible uses of -ince. (Age of narrator is given in square brackets.)

(3) Situation: a dog falls from a window with a glass jar on his head, breaking the jar; sequenced, plotline events with different subjects; second event is PUNCTUAL.
Köpek düş-ince başandaki şiş kırılır. [adult]
dog fall-ince head:POS:LOC:REL jar break:PASS:PRES
'When the dog falls the jar on his head breaks.'

(4) Situation: a beehive falls from a tree and breaks and the bees chase a dog; sequenced, plotline events with different subjects; second event is INCEPTIVE, UNBOUNDED DURATIVE.
Aralar kovan boşul-ince körpeği izlenmeye beem: hive break:PASS-ince dog:ACC follow:PRES:DAT
hastalar. [adult]
'state:PRES:PL
'When the beehive breaks the bees start to follow the dog.'

(5) Situation: a boy wakes up to find that his frog has escaped; sequenced, plotline events with same subject; second event is UNBOUNDED DURATIVE.
Çocuk sahab kalk-ince kurbağıyi arar. [age 9]
boy morning get.up-ince frog:ACC search:PRES
'When the boy gets up in the morning he searches for the frog.'

Although -ince presents the first event as in some way subsidiary to the second, the events in both clauses can advance the plot. This is especially clear in (3), which presents two sequenced events in a cause-effect relation. Thus -ince cannot be simply interpreted as a narrative grounding device (Hopper 1979). Nor is it necessarily a causal connective. Rather, given the close temporal relation between the two events, the event of the conjunct clause presents a state of affairs which has some causal, or at least enabling relation to the event of the main clause. Kononov (1956: 481) attempts a purely temporal definition, characterizing the main-verb event as one that "follows immediately, but without connection" to the preceding event marked by -ince. In support of this position, he cites a number of examples such as (6), in which the -ince clause simply moves a participant onto a new scene or into a new phase of activity.

(6) Kahveden piş-ince yağmurun altında sokaklarda dolastır.
cafe:ABL leave-ince rain:GEN under:LOC street:LOC:LOC stroll:PAST
'Leaving the cafe he strolled in the streets in the rain.'

However, even in such examples of negligible physical causality, it is clear that the conjunct clause sets up a condition in which the main clause can be realized. That is, the narrator has some reason for linking these two situations with -ince. From the listener's point of view, it seems that -ince, with its narrowly temporal meaning, licenses a minimal set of references about the speaker's communicative purpose in syntactically linking the two clauses. I suggest that the four converbs lie on a cline with regard to the range of inferences that they license, with -ince and -erek fairly limited by comparison with -jp and -erek.
Developmentally, the basic temporal meaning of -ince is accessible to the youngest narrators. For example, a three-year-old, having established that a dog has fallen from the window, says:

(7)  
Ondan sonra diş-ince kırılır [age three]
itABL after fall-ince break\$</br>\'After that, when (he) falls (it) gets broken.\'

3.1.2. -Erken

The meaning of -erken is simple temporal overlap or simultaneity. The first event in an -erken linkage must be durative and unbounded, and there is no restriction on the temporal contour of the second event. The only interpretation is that the second event is temporally contained in the first, without any regard to relations between either left or right boundaries of the two events. Like -ince, there are no coreference restrictions between the two clauses. The following examples from three-year-old frog stories show the range of possible uses of -erken, as well as the precocious use of this form in child speech.

(8)  
Situation: a boy is sleeping and a frog sneaks out of its jar; background state and simultaneous event with different subjects; second event is BOUNDED PUNCTUAL.
Çocuk uz-erken kurbaga kaşığız. [age three]
boy sleep-ERKEN frog escape\$</br>\'While the boy was sleeping, the frog escaped.\'

(9)  
Situation: a deer carries a boy on its antlers and a dog runs alongside; simultaneous plotline events with different subjects; second event is UNBOUNDED DURATIVE.
Geyle onu taş-erken kırılır. [age three]
deer PRO.3SG:ACC carry-ERKEN run.away\$</br>\'While the deer is carrying him, the dog is running away.\'

(10)  
Situation: same as (3); same subject; postposed background state; main event is BOUNDED PUNCTUAL.
Kâpek dışparan aşağıya caandur dan
dog fall\$</br>\$</br>downwards window\$</br>\$</br>bak-erken. [age three]
look-ERKEN
\'The dog fell downwards while looking out of the window.\'

Note that -erken-clauses, like -ince-clauses, can present either background or plot-advancing (foreground) information. In narratives with several coacting partici-

pants, as the frog story, two participants can act simultaneously to advance the plot, as in (9).

3.1.3. Developmental considerations

-ince and -erken perform clearly temporal functions which can be defined quite simply and directly. Aside from specifying the temporal relation between the events of the two clauses, these verbs place no restrictions on the form or content of the main clause with regard to tense, aspect, modality, or the identities of predicate arguments. As soon as the requisite temporal notions of sequence and simultaneity are available, the direct mapping of these notions onto -ince and -erken should provide no problem. As shown in Table 3, these forms are used as early as age two in spontaneous speech.

In terms of narrative organization, -ince and -erken mark a purely local or temporally adjacent relation between two actions, without necessarily knitting them together into a larger conceptual entity. As proposed below, it is this conceptual ability that seems to play a major role in the acquisition of -ip and -erkek.

Comparisons with children's frog stories in other languages reveal a similar early ability to mark the temporal relations that are expressed in Turkish by -ince and -erken, reinforcing the proposal that these notions are readily accessible to children of this age. For example, English- and German-speaking three- and four-year-olds often mark the second clause for inception or sudden onset in a way that parallels the use of -ince to indicate tight temporal sequence:

(11)  
Situation: a boy and dog fall in a river.
And then he splashed right in and then they started swimming. [age four]

(12)  
Und dann ruft der Junge in so ein Loch und dann kommt
and then calls the boy into such a hole and then comes
plötzlich ein Hamster raus.
suddenly a hamster out
\'And then the boy calls into a sort of hole and then suddenly a hamster comes out.\'

Simultaneity is marked by uben by English three-years-olds, parallel to -erken by Turkish children of the same age, as shown in (13), which is equivalent to (8).

(13)  
The frog got out when he's sleeping. [age three]

3.2. -Ip and -erkek

The development of -ip and -erkek is not so straightforward, because these forms are more varied and discourse-sensitive in their functions.
3.2.1. -ip

-IP is the most “neutral” or “empty” of the converses, corresponding to a general conjunction such as English and. Consequently, some grammarians, like Underhill (1976: 379), simply say: “this suffix has little meaning of its own”; going on to note only that “the two actions are either performed simultaneously... or, more frequently, performed in sequence.” Other grammarians, such as Kononov (1956: 474), propose an open-ended range of meanings, describing -IP as “expressing an action ... that precedes another action, characterizing the predicate from the point of view of manner of action, time, reason, or condition.” Clearly, what is at play is the range of contextually framed inferences that can be drawn between two or more syntactically linked events. What distinguishes both -IP and -erek from the first two converses is the significant presence of the factor of inference in their interpretation. Grammarians who attempt to provide strictly temporal definitions fail, since these converses, unlike -INCE and -ERKEN, are not inherently temporal, but draw their interpretations as simultaneous or successive linkages from context. On the other hand, grammarians who attempt to assign richer semantic meanings of cause or manner, fail for similar reasons.

Underhill is right in declining to assign a meaning to -IP. This verb has been present throughout the documented history of the Turkic languages, and perhaps is so long-lived because of its neutrality. Its etymology seems to be unknown, although Kuzucucu’s (1983) has proposed that – fittingly – it may be derived from an ancient verb ba meaning ‘tie together, conjoin’.

In the frog stories, -IP makes its major appearance when children begin to link clauses together in narrative units, rather than mere temporal juxtaposition. The timing of its emergence suggests that it does not simply function as a conjunction, but rather serves a narrative function. Like -INCE and -ERKEN, the clauses chained by -IP “package” pieces of an event into a larger event, but without the immediacy of temporal relation indicated by those converses. The events either have a kind of separateness, as in (14), or the event of the -IP-clause is a concomitant manner of action, even postposed as a subsidiary comment, as in (15).

14. Situation: a boy climbs onto a rock in order to call for his frog.
Čıck-IP tuşın üstüne bağırır, [age five]
climb-IP rock:GEN top:POSSESS call:PRS
‘(He) climbs onto the rock and then calls.’

15. Situation: a boy is lying on the ground, looking up at an owl in a tree.
Çocuk tekrarır tuşun erek-IP (=sh('</tgroup>')
child look:PRS head:POSSESS lift-IP
‘The child looks, lifting his head.’

-IP seems to mark one event as, in some sense, backgrounded – or at least somewhat subsidiary to another in a narrative context.

At first glance, -erek would seem to perform a similar function. However, a closer examination of its discourse-semantic functions may account for its absence in the preschool data.

3.2.2. -erek

As an introduction to the functions of -erek, compare (16) and (17), which present the same situation from two slightly differing perspectives, as suggested by the English glosses:

laugh-IP GEPAST
‘He laughed and went away.’

17. Gii-erek gitti.
laugh-erek GEPAST
‘He went away laughing.’

The essential difference seems to be that -IP links two events, while -erek presents two situations (actions, states) as part of one event. However, beyond that, if -IP can be designated as a relatively empty, all-purpose coordinator, -erek requires a more subtle characterization, since it is much more limited with regard to the clauses that it can link. It is this subtlety, I suggest, that eludes five-year-olds, and, to a great extent, has eluded grammarians.

Table 4 presents an overview of a number of attempts to define -erek over the past century.

The definitions that restrict -erek to simultaneity are clearly wrong (Redhouse, Jansky, Kissling), as shown by Deny’s example of a “preliminary action” marked by -erek (Kedi eli kaparak kaptı ‘Seizing the meat, the cat ran away’). Ediskiu’s “simultaneity or sequence,” however, is too broad. Kononov, Lewis, and Underhill appropriately limit the sequential reading to “immediately preceding” or “slightly prior” to the event of the main verb. But such definitions are purely temporal, and so leave no grounds for distinguishing -erek from the simultaneity of -ERKEN and the immediate succession of -INCE. If only temporality was at issue, we would expect -erek to freely substitute for -ERKEN and -INCE – but it does not. The reason that it does not is hinted at by the various nuances in some of the definitions: “manner,” “mode of action,” “condition, contingency,” “picturesque qualities,” “inner connection between the principal and subsidiary actions.” This range of groping attempts to characterize the nature of the “inner connection” (Kissling) between the two predicates suggests that, like -IP, a meaning cannot be assigned to the verb itself, but rather, we are in need of a characterization.
Table 4. Accounts of -erek by grammarians

Redhuauer (1884: 111): "The "distinctive use [of -erek] is to indicate that, of two contemporary sustained actions expressed, the one, subsidiary, accompanies the other."

Deyr (1921: 888): -erek expresses an "extended concomitant state." It can express simultaneity: Bana buharım güläßii Lelahalım at me, he smiled; manner: Afif sük Ürük güläßii "He came crying"; or "in secondary action [that] is preliminary to the principal action": K                                                               erek ni kamarık kæti "Salters the meat, the cat ran away.

Jansky (1954: 156): -şp is used "when the action of the main verb follows that of the converb in time, whereas the converb in -erek is used when both actions — that of the converb and the main verb — ensue simultaneously."

Kanunuz (1956: 477): -erek expresses an extended circumstance of the mode or manner of action: (1) an action occurring simultaneously with the main predicate, with nuances of iterativity, momentaneity, or designation of the time of action, or presentation of a uniform, ongoing activity; (2) an action immediately preceding the action presented in the main predicate. (In this function the -erek converb is grammatically synonymous with the -şp converb, with the distinction that -erek primarily characterizes an action from the point of view of mode of action [ disponível, i.e., while -şp expresses mode of action, time, reason, and condition.)

Kessel (1960: 192): "-erek is used to designate a subsidiary action that is absolutely simultaneous with the principal action, whereby there is often an inner connection [ein innerer Zusammensbau] between the principal and subsidiary actions."

Ediskun (1963: 252): -erek: (1) specifies the temporal relation to the following action, (2) refines the temporal extent relating a following action with respect to simultaneity or sequence, (3) can indicate a condition or contingency [satz]: Hastà dinlesew-erek ifišti "The patient recovered (by means of) resting."

Lewis (1967: 177): -erek "denotes a single act or continued activity contemporaneous with or slightly prior to the main verb. ... It often corresponds to the English 'by doing' or 'with doing' ..."

Yze (1973: 18-19): The -erek-clause "mainly gives the mode and manner [Art und Weise] of the event of the main clause and unfolds simultaneously with it. ... When the action of the subordinate clause does not give the mode and manner of the event of the main clause, then it generally precedes the main clause event in time."

Underhill (1976: 379-380): -erek "is used for a single action, or one that is described as a single action, which takes place at the same time as the main verb or immediately preceding... This suffix is frequently used to indicate the manner in which the action of the main verb is performed."

Inman (1977: 76): "To the extent that the verbal adverb -erek has the ability to take on a colorful [kreativ], 'pictorial' [kustiteren] expression of the accompanying action, it can be used in all circumstances ... in which one wishes to accentuate the 'picturesque qualities' [bildenschar] of the subsidiary action, along with the fact that it is not semantically blended or merged with the main action."

of the types of situations framed by -erek and the sorts of inferences that are licensed by use of this form.

One intriguing solution — relying on aspecual meaning — has been offered by Johanson (1971). He observes that -erek partakes of meanings of the past progressive -yärüm, while -şp relates to the simple past -DI. Thus, (16) güllük gtti 'laugh-şp go-past' implies the sequentiality of güllük (şp) gtti 'laugh-past (and) go-past' (i.e., 'He laughed (and) went away); while (17) güllük gtti corresponds to Gitti. Güllük gtti 'He went away. He was laughing [in so doing].' Johanson concludes:

The function of -erek and -yärüm is to express turn-off the principle of order (often suggested by -şp and -şf), with resulting possible interpretations of 'simultaneity', 'subsidiary condition', 'commentary', 'instrument', 'reason', 'motivation', etc. Without going into the details of the use of -şp and -erek, we can ascertain that this use is not temporal, but is basically aspecual. (Johanson 1971: 261).

This suggestion certainly goes beyond the grammarians represented in Table 4, and the aspecual interpretation is useful for the further analysis below; but it seems dissatisfying to characterize the function of one grammatical form as simply "turning off" the functions of a contrasting form. If this were the only issue, we should expect five-year-olds to use both forms. There must be something about the "details of the use of -şp and -erek" that account for its relatively late acquisition.

Johanson's attention to the inherent aspect of the subsidiary clause suggests that one should also consider the Aktionsart of the main clause. This factor reveals that -erek is involved in building global event representations, rather than simply linking two clauses. Taking a more broadly cognitive approach, both the meanings and the inherent aspects of the two clauses are involved in arriving at an appropriate inference of the overall meaning of the clause chain. Compare (18 a) and (18 b):

(18) a. Hastà dinlesew-erek ifišti. (Ediskun 1963)
    The patient recovered (by resting).

b. Askerler şarks süley-erek kæşlägä yürürdüle. (Jansky 1954)
    "The soldiers marched singing to the barracks."

Both "rest-recover" and "sing-march" seem to form plausible events, the one causative/instrumental and the other accompanying activity/manner. Both have the general temporal meaning of "overlap," but this meaning does not derive from "turning off the principle of order." Rather, inherent temporal qualities of the event presented by the second verb influence the interpretation of the con-
nection between the two verbs. In (18a) the second clause is inchoative (or perhaps “graded onset”); that is, one knows that the recovery was not present as the onset of the resting. In (18b), however, both clauses are simply durative, and presumably totally overlap in time. Given the lexical meaning of “recover” (entry into a new state), it follows that “sing-EREK” should have an instrumental reading in (19):

(19) Hatta şarık sütley-erek şylesti.
patient song sing-EREK recover-past
‘The patient recovered (by) singing.’

However, if the temporal meaning of the second verb is “unbounded,” the reading is temporal overlap:

(20) Hatta şarık sütley-erek oturdu.
patient song sing-EREK sit-past
‘The patient sat singing/sat and sang.’

Thus the interpretation of an -erek-chain depends not only on the inherent progressive meaning of the converb, but also on the Aktionssort of the main-clause verb, along with its lexical meaning.

3.2.3. -Erek and serial-verb constructions

-Erek-chains often suggest potential compound verbs, reminiscent of serial verb constructions in other types of languages. One can easily imagine compounds like “rest-recover” or “sing-march.” In conceptual terms, such constructions require an ability to link two or more phases of a situation into a single event. It is this cognitive ability to mark two actions as constituent parts of a superordinate, event — without actually naming that event — that seems to be beyond the ability of five-year-olds.

In their “functional reference grammar” of Mandarin Chinese, Li and Thompson characterize such constructions in precisely these terms (1981: 594):

... the property they all share is that the verb phrases in the serial verb construction always refer to events or states of affairs which are understood to be related as parts of one overall event or state of affairs. The exact way in which they are related varies according to the meanings of the verbs in these verb phrases.

In their classification of serial-verb constructions, Li and Thompson speak of three kinds of relations which can broadly be used to classify all of the -erek-chains in the frog stories: CONSECUTIVE, PURPOSE, and CIRCUMSTANCE. Examples from the school-age and adult narratives are given in Table 5, with the Li and Thompson definitions and my own subcategories.

Table 5. -Erek-chains in frog stories

| CONSECUTIVE: “One event occurs after the other.” |
| Preparatory act/Movement |
| ‘He shut-erek his eyes slept’ [age nine] |
| ‘The boy climb-erek tree was looking in hole’ [age nine] |

| Motivating state |
| ‘The boy got-angry-erek pick up dog’ [age seven] |
| ‘The duck get-terror-erek started to run wildly’ [age nine] |

| Cause |
| ‘The owl chase-erek the boy frightened him’ [age nine] |
| ‘The dog fall-erek from the window broke the jar’ [adult] |

| PURPOSE: “The first event is done for the purpose of achieving the second.” |
| ‘The boy bring-erek his hands to his mouth was trying to silence the dog’ [age seven] |
| ‘The frog leave-erek the jar ran away’ [age nine] |

| CIRCUMSTANCE: “The first verb describes the circumstances under which the event in the second verb phrase or clause occurs.” |
| Manner |
| ‘Swim-erek they went back’ [age seven] |
| ‘The dog quickly run-erek alongside passed’ [adult] |

| Interposed acts |
| ‘The boy approach-erek a log say “sh” to the dog’ [age nine] |
| ‘Feed-erek his hand he gave’ [age nine] |

First consider the CONSECUTIVE uses. What they have in common is a slightly retrospective view of a preliminary event phase that, when combined with the main-clause event, constitutes a whole. The preliminary phase in some sense enables the subsequent phase — as a preparation, motivating state, or cause. These constructions can generally be rendered in English by a having-done construction, e.g., Having climbed the tree, he was looking in a hole.

The PURPOSE uses define an act in the -erek-clause and give its goal in the main clause. These can be rendered in English by an in-doing construction, e.g., In bringing his hands to his mouth, the boy was trying to silence the dog. Here there is little or no sense of sequentiality between the two phases of the global event.

The uses of -erek-chains to describe circumstances can represent either simultaneous or successive components of an event. The descriptions of manner are, of necessity, simultaneous, and can be rendered in English by present participles,
e.g., They went back swimming, or by verbs that conflate motion and manner, e.g., They swam back. As discussed below, manner descriptions seem to be the developmental starting point of -erek for children.

The final category, which I have labeled INTERLACED ACTS, is the most heterogeneous. Here the narrator, by the use of -erek rather than another convert, chooses to present two phases of an event as tightly linked. These uses correspond to English present participles, e.g., gardening his hand be gone off (in the distance). These uses can most easily be substituted by -ip, depending on narrative perspective.

Treating these constructions in a serial-verb framework fills in the grammarians' "inner connection" or "pictorial expression" with somewhat more cognitive detail. At this level of detail, the functions of -erek are different from those of the other three converts. That is, the issue is not one of temporality, but rather the creation of some sort of conceptual amalgam. The contrasts between the forms become clear when one considers the compatibility of the other converts with -erek-chains in the frog stories. (This comparison can only be carried out with regard to conjuncts with the same subject, since this constraint applies to -erek.)

3.2.4. Comparison of -erek and -ince
With one exception, none of the verbs chained by -erek are chained by -ince in the collection of frog stories. -ince linkages are not at all like compound verbs or serial-verb constructions. Rather, given the complete aspectual meaning of this convert, the two conjuncts present clearly separate events. The only seeming exception is "fall-break," describing a scene in which the dog falls from the window with a jar stuck on his head, breaking the jar. But the use of -ince, as shown in (21), switches reference and requires a passive form of the main verb, thereby emphasizing a conceptual gap between the two events, rather than depicting them as phases of the same event, as in the -erek-chain in (22), describing the same scene.

(21) Köpek diş-ince bagınıldıği şeye kaydıyr [adult]
dog fall-inCE head:POSS:REL jar break:PASS:PREs
'When the dog falls the jar on his head breaks.'

(22) Köpek pencereden aşağı diş-erek kavanozu kuruyor [adult]
dog window:ABL down fall-erek jar:ACC break:PREs
'The dog, falling down from the window, breaks the jar.'

3.2.5. Comparison of -erek and -erken
None of the verbs chained by -erek are chained by -erken either. -Erken-linkages are also not at all like compound verbs or serial-verb constructions. As shown earlier in examples (8–10), -erken either backgrounds a state to a simultaneously ongoing activity or presents the overlapping actions of two actors.

3.2.6. Comparison of -erek and -ip
As might be expected, the only convert that overlaps functionally with -erek is -ip, given its openness to many contextual interpretations. Example (23) shows the compatibility of -ip the with "fall-break" scene:

(23) O da diş-ip kavanozu kuruyor. [adult]
PRO.3SG focus fall-ip jar:ACC break:PREs
'He [dog] falls and breaks the jar.'

Such constructions seem to emphasize sequence, rather than package the two events into a larger whole. Example (23) translates more naturally as he falls and then breaks the jar, while the corresponding conjunct chain with -erek (22) is close to having fallen, he breaks the jar.

Overall, there are only six scenes that, broadly, allow of both -erek and -ip expression in the frog story texts, as shown in (24):

(24) Verbs conjoined by either -erek or -ip:
fall-break
leave-escape
take leave-depart
take-act [various actions]
lean on-call
say-go

A number of other -ip-chains seem to be built on a first clause that is completive or bounded with respect to the second, but in many cases it seems to be the narrator's choice to bind event descriptions more or less tightly into a global event, allowing for contrasts such as the various versions of the "fall-break" scene that we have seen.

It is clear, therefore, that the meanings of -ip and -erek cannot be determined simply by the semantic contents of the two clauses. The contrast represents a choice in narrative perspective — and it is precisely this kind of narrative ability that develops sometime after age five. It is of interest that the narrative perspective provided by -erek has evolved recently in historical time as well. The other three converts have long histories in the Turkic languages, and are widespread across their range from Central Asia to the Balkans. But -erek has developed primarily in Asia Minor, in the Oghuz languages, making its first appearance in Anatolian manuscripts of the thirteenth to fifteenth centuries. Deny noted in 1921 (1921: 890): "it is only recently that the use of the -iperek gerundive has
undergone a great extension. Today it has taken over all the terrain lost by the -ip gerundive.” Unfortunately, Deny does not say more, and I haven’t found any other mention of the discourse contexts of the spread of -erek in the extensive Turkish, American, Western European, or Soviet Turkological literature.

While we do not have the means to trace out this historical extension, it is suggestive to compare -ip-chains in five-year-old frog stories with -erek-chains in the stories of older children and adults. In both instances, -erek takes over functions previously marked by -ip.

4. Considerations of child language development

4.1. Event representation

A close look at five-year-olds’ uses of -ip reveals anticipation of -erek functions. These children begin to use -ip-chains to mark the first conjunct as expressing a preparatory state or action to that of the main verb, or to express an activity or posture that is part of the action of the main verb. Note, for example, the following correspondence:

(25) a. Yavruyu *a-t* ona bakıyorlar [age five]
    baby:ACC take-IP PRO.3SG:DAT look:PREPPL
    They take a baby frog and look at it! / Having taken ...

b. Bir tanesini eline alarak onu
    one item:POSS:ACC hand:POSS:DAT take-EREK PRO.3SG:ACC
    sevi. [age nine]
    love:PASS
    'Taking one of them [baby frog] in his hand, he loved it.'

Thus there is some suggestive evidence in the narrative data that, developmentally, -erek takes over some of the terrain of -ip.

More generally, this process can be seen as part of the development of narrative abilities in children. In order to construct -erek-chains, the narrator must attend to two or more phases of an event. This ability emerges — cross-linguistically — at about age five in our texts (Berman–Slobin 1994). For example, in describing the frog’s escape from its jar, three-year-olds are content to comment simply on the fact of his leaving, using a single clause with the verb *pok* ‘exit’. However, nine-year-olds and adults break the scene into phases, and chain them as conjuncts with -ip or -erek plus *kaq* ‘escape’: *pok kaq* or *pokaraka kaq*. Five-year-olds, in both Turkish and English, break the scene into phases, but do not yet join them syntactically, as shown in (26).

(26) Turkish five-year-olds:
    Kuruğa kapıya açıyor *pokarakan yana yaan.*
    frog DOOR:ACC open:IPRES exit:IPRES slow slow
    ‘The frog opens the door, goes out slowly slowly.’

    Kuruğa diyarı *işem* kapımı.
    frog outside EXIT:NARR.PAST run:AWAY:NARR.PAST
    ‘The frog went outside, ran away.’

    English 5-year-old:
    The frog got out of his bowl, and he went somewhere else.

Syntactic packaging, then, reflects more than simple increase in memory or attention, since five-year-olds can analyze scenes and present their analysis in successive clauses. Furthermore, they are beginning to make flexible use of Turkish clause-chaining devices to knit some components of situations together into longer units. Thus they have the prerequisites for use of -erek, but something is missing.

-erek is difficult because, although it appears to link clauses on a temporal basis, its distinguishing characteristic really lies in its role in building global or composite event representations. If it were simply a temporal subordinator, it would be acquired along with -ince and -erek; if it simply contrasted with -ip on features of aspect or sequentiality, it would be acquired along with -ip. -erek is also difficult because it requires a flexibility in narrative perspective — a narrative stance in which attention can be shifted from the microstructure to the macrostructure of events.

4.2. Children’s errors in use of -erek

Children’s errors in the use of -erek reveal the special dimensions of difficulty of this form. Children’s speech errors are vanishingly rare in Turkish. The regular and semantically transparent agglutinative morphology of the language makes Turkish a noteworthy exception in the field of child language acquisition (Aksu-Koç–Slobin 1985). Therefore it is especially interesting that the very few errors to be found in the narrative texts occur in the use of -erek. The fact that some of these errors are produced by nine-year-olds suggests that this form is especially troublesome. Since -erek-chains are syntactically identical to those formed with the other converbs, the difficulties must lie elsewhere than in their formal grammar.

Although -ince and -erken have no coreference restrictions, -erek and -ip require same subject in conjunct and main clause. The formal error in (27) is a subject switch between boy and owl:
The child has used -erık in place of the present participle, -in. In an abstract sense, both forms have a continuable or durative meaning. Following the suggestion made above that -in and -erık are easily acquired because they directly map temporal categories, this error may reflect a later attempt to do the same with -erık. Note that both present participle and verb can co-occur in parents’ descriptions of events to very young children, as in the following example of a mother’s speech to a child of 2-0. (And note, also, that both forms can be conveyed by -ing in English.)

Our limited data suggest that children begin to learn -erık in descriptive contexts of simultaneous activity, indicating either temporal overlap or manner, as in (30), and as in (2), our only spontaneous preschool example of -erık: yarışýerék gidýıyor ‘I’ll go runningly’. There are only two instances of -erık in preschool frog stories, and they are both postposed manner adverbials rather than interclausal connectives: ‘the boy brings the bees, shout’erık’ and ‘he had lain down in bed this way, turn’erık backwards’. Children’s eventual task is to move away from such semantic interpretations to the event-building and discourse uses that characterize the full use of the verb.

5. Switch reference

The error in (27), along with several seven-year-old errors, suggest that -erık may also pose problems in the domain of switch reference. Recall that -ip and -erık require same subject in conjunct and main clause, while -in and -erkan are open in this regard. Considered within a crosslinguistic framework of switch-reference systems, the pattern for -ip, -in, and -erkan seems to match a universal for same subject (SS) and different subject (DS) marker. For example, Haiman and Munro (1983: xiv), following a suggestion by Longacre (1983), propose that, diachronically, ‘SS markers originate as temporal successive markers; DS markers originate as temporal overlap markers.’ In Turkish, -ip is primarily a successive marker, and is SS. -Erken is exclusively an overlap marker, and -in marks at least a minimal overlap between the end of one action and the beginning of another. These two overlap markers can be either SS or DS. The Turkish pattern is consistent with Haiman and Munro’s predicated universal (1983: xiv):
6. Conclusion

As a methodological conclusion, this analysis suggests that unusual lags in acquisition such as that noted for -erek can provide useful suggestions for points of complexity in a language. The -erek case is especially clear, in that there is a contrasting set of converses that are equivalent in syntactic form and general frequency of use. The case is also intriguing in that there appears to be a diachronic parallel to the late emergence of -erek.

In terms of cognitive linguistics, the case of -erek points to the roles of both conceptual and discourse factors in full accounting for the functions of grammatical forms. An adequate semantic analysis of -erek reveals that this form is used to relate two phases of a situation (sequential or simultaneous) in the construction of a coherent event. Such an event notion is a complex category which is neither fully temporal nor causal in traditional terms, but partakes of both temporality and causality within a narrative context. Parallels with semantic descriptions of serial-verb constructions suggest that there are universal factors of cognitive organization underlying the grammaticalization of bicausal constructions.

Notes

1. The study reported here was designed in collaboration with Ruth A. Berman; Turkish data were gathered by Ahn Aksu-Koç and Aylin Küntay, who also provided valuable feedback on the analysis. Support was provided by the Grant Foundation, the National Science Foundation, the Sloan Foundation, the U.S.-Israel Binational Science Foundation, the Center for Middle East Studies (University of California, Berkeley), the Max-Planck-Institut für Psycholinguistik (Nijmegen, Netherlands), and Boğaziçi University (Istanbul, Turkey). An earlier version of this paper appeared as Slobin (1988).

2. Turkish has two vowel harmony patterns: -ins and -ip follow fourfold harmony of fronting and rounding (-ins/-ins/-ins/-ins); -erk follows twofold harmony of unrounded fronting (-erk/-erk). What I refer to as -enken is an invariable suffix -en added to the "orist" (timeless, habitual) inflection -en/-en/-en/-en. This suffix can also be added to other forms, but only occurs with the orist in the present data.

3. This table combines data from the studies by Aksu-Koç and Küntay; Table 1 presents data from the Aksu-Koç study only.

4. The use of multiple converses of various types to build more complex event representations would be an important next step in the study of converses. Adult narrators, for example, produce such combinations as the following:

(0) Çocuk korkup içeri, aşçı döşerken köpek de başka boy be. afraid-TR inside, downwards fall-EKREN dog FOCUS quickly parlayan ka-prop getirir, pinki dişindirgliyi art sideABL YUN-EKREN PASSPAST because fall_RAISE NOMI.PASS bee KANANDUKU bittine andar köşegen peşindegiz hivicEN.LOC.REL all bee. EXCL-paper trail.PASSLOC.PASS.PAST

'The boy being afraid, falling down, the dog passed quickly by, running, because all of the bees from the hive that he knocked down were after the dog.'
Proceed to the window, the dog falling from the window, breaks the jar.

Looking out of the window, the dog falling down from the window, breaks the jar.

Taking his frog, the boy, walking to the mother, father, and other brother-sister frogs, walking through the water, they [boy and dog] go away.

References

Aksu-Koç, Ayhan A.-Dan I. Slobin

Berman, Ruth A.-Dan I. Slobin

Deny, J.

Ediskin, H.

Gabain, A. von

Haiman, John–Munn, Pamela (eds.)

Ivanov, S. I.

Iansky, H.

Johanson, Lars

Kästling, H. J.

Konočov, A. N.
1956 Grammatika suvremennogo tureckogo literaturnogo jazyka [Grammar of modern standard Turkish]. Leningrad: Izdatel’svo Akademii Nauk SSSR.