FIVE WAYS OF LEARNING HOW TO TALK ABOUT EVENTS:

A CROSSLINGUISTIC STUDY OF CHILDREN'S NARRATIVES

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In this working paper we present a first set of analyses of part of a large-scale crosslinguistic study of children's narratives.[1] In order to standardize narrative content, we used a single picture story-book, *Frog, where are you?* (Mayer, 1969), that tells a story without words. (The full set of pictures is given in the Appendix, which should be "read" at this point.) Stories were gathered from children aged 3, 5, 9, and adults, speaking English, German, Hebrew, Spanish, and Turkish as native languages.[2]

Narrative analysis can be approached from the level of **macrostructure** of a story as a whole, or **microstructure** of individual clauses or adjacent clauses. Macrostructural approaches deal with such issues as overall plot structure, story grammar, foreground-background relations, and the like; while microstructural approaches deal with such issues as tense/aspect/modality, voice, and interclausal relations of coordination and subordination. While there are important interactions between these two levels, the present paper focuses on microstructure. At the macro-level we find significant crosslinguistic commonality in the development of children's abilities to construct coherent and artful narratives, as will be discussed in later papers. At the micro-level, however, we find subtle differences between the five languages in our sample. It is at the level of the clause--and, particularly, the verb--that children learn to recount events in terms of the perspectives favored by their native language. The present analysis is a preliminary attempt to characterize ways in which each of our five languages embodies a set of preferred **perspectives,** which are readily mastered by preschool age children. We attempt to show that full acquisition of the grammatical marking of verbs involves much more than verb semantics and temporal reference, as discussed in studies of the emergence of verbal morphology in 2-year-olds (summarized, for example, in Weist 1986). Mature language use requires the ability to **choose** between forms of a verb, depending on the function of the predicate in connected discourse--particulary on the perspective taken by the speaker with regard to the represented event. These perspectives reflect a set of options in the flow of discourse--options to present an event, for example, as ongoing or completed, or to present a protagonist as agent or patient. In addition, the set of available perspectives offered by a given native language may well constrain the range of conceptualizations of events developed by the child. While we have no clear evidence for such Whorfian claims--even within the restricted context of our single type of narrative--the

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[2] The "frog book" method was developed by Michael Bamberg, and the first full-scale analysis of German stories appears in his 1985 Berkeley dissertation. Additional data, not analyzed here, were gathered from 4-year-olds in English, Spanish, and Hebrew; and from 7- and 11-year-olds in Hebrew. There were 12 Ss in each child group in English, German, Spanish, and Hebrew; there were 6 Spanish adults and 14 Hebrew adults; all Turkish groups consisted of 10 Ss. Quoted Ss are referred to by language, age, and ordinal identifying letter (e.g. "T-5c" = Turkish 5-year-old, third oldest child in the sample of fives).

old question of the role of language in influencing cognition is once again brought to the fore in such research.

For the purposes of the present paper, we have chosen narrations of three picture episodes in the story: (1) Pictures 10b-11-12a: "the fall from the cliff," (2) Picture 3a: "entry into the jar," and (3) Picture 10b: "getting caught on the deer's antlers." These episodes were chosen to highlight crosslinguistic and developmental differences in the use of linguistic means of encoding: change of location (verbs of motion and locative expressions), inception and cessation of events (aspectual marking), and change of state (transitivity and voice).[3] In this exploratory paper we wish to show (a) ways in which all children traverse a **common** course of development in constructing systems of narrative syntax and temporal expression, and (b) ways in which children come to describe events in terms of the distinctions typically manifested by the grammar of their **particular** native language.

The paper deals with two broad issues, each of which involves interconnected systems of the expression of aspect, manner, and transitivity: the first set of analyses deals with causality, directionality, and manner with regard to changes in location; the second deals with entry into states and agent versus patient perspectives on such changes. Underlying both of these topics is a general theme: the development of the ability to linguistically express one of several possible **perspectives** on a situation.

A DRAMATIC CHANGE IN STATE: DIRECTIONALITY, CAUSALITY, MANNER

A crucial turning point in the story is the fall from the cliff. This marks the transition from aimless search in the woods to the lucky conclusion. Essentially, the story takes place in three spatial domains: the house, the woods, the pond. The third and final domain is the natural home of frogs, and a fortuitous event is needed to transfer the searchers to this domain. At least four full pictures are devoted to the transition, including a two-frame spread: (10a) boy ends up on deer's antlers; (10b) deer carries boy to edge of cliff, with dog running alongside; (11) dog and boy pictured in mid-fall; (12a) dog and boy landing in pond below. Leaving 10a aside, as a preparatory event (discussed in the second section of this paper), we direct our analysis to 10b-11-12a.

We have isolated six critical elements in this episode: (1) deer starts to run, (2) deer and dog run towards cliff, (3) deer stops at edge, (4) deer throws boy down, (5) boy and dog fall, (6) boy and dog land in water. Only two German adults explicitly mention all six of these elements, whereas **all** narrators make some mention of downward motion (throwing or falling). Overall, there is a general development in the average number of elements per episode, primarily after age 5:[4]

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[3] Later studies will deal with macro-level issues of narrative organization, event sequencing, and universal versus language-specific aspects of the development of temporality in discourse.

[4] All tabulations in this section include only stories in which some mention was made of the fall from the cliff. The numbers for each age and language are as follows (indicating each language by initial capital letter and each age by numeral, with 20 as the arbitrary adult age): E3-11, G3-12, S3-12, T3-9, H3-12; E5-12, G5-12, S5-12, T5-10, H5-10; E9-12, G9-12, S9-10, T9-9, H9-12; E20-10, G20-12, S20-6, T20-10, H20-14.

Table 1

AVERAGE NUMBER OF ELEMENTS MENTIONED PER EPISODE

	Threes	Fives	Nines	Adults
English	1.8	2.5	2.9	3.9
German	2.2	2.4	3.3	4.3
Spanish	2.4	2.3	2.7	3.8
Turkish	2.4	2.6	2.7	3.2
Hebrew	2.1	2.2	3.0	3.0
OVERALL	2.2	2.4	2.9	3.6

What is of interest, however, is not the simple number of elements to which narrators made some explicit reference, but rather the ways in which they are lexically and syntactically interwoven into various kinds of temporal-causal-locative scenarios. Adult stories go all the way from dense encapsulation of significant elements into a single clause, as in (1), to detailed, step-by-step elaboration, as in (2).

(1) *Hu'af al yedey hacvi me'ever lagiv'a el hanahar.*

(He) was made to fly [=was hurled] by the deer from across the hill to the river. [H-20i]

(2) *Wütentbrannt stürtzt der Hirsch mit Tom auf dem Kopf, zwischen dem Geweih festgeklemmt, zum nächsten Abhang, während der Hund versucht noch den Hirsch von seinem bösen Vorhaben abzuhalten. Aber der Hirsch lässt sich nicht beirren; macht am Abhang halt und schwupp schmeisst er Tom den Abhang hinunter in einen kleinen Teich. Der Hund hat auch den Halt verloren und fällt hinter Tom her. Beide landen also plattsch im tiefen Wasser eines Teiches.*

Enraged, the deer takes off with Tom on his head, held fast between the antlers, to the next cliff, while the dog still tries to hold the deer back from his evil intentions. But the deer doesn't allow himself to be led astray; he comes to a stop at the cliff and, presto, hurls Tom down over the cliff into a small pond. The dog has also lost his footing and falls down behind Tom. And so both of them land, splash, in the deep water of a pond. [G-20f]

As we will see, these two examples demonstrate features of Hebrew and German which occur across ages--for example, the Hebrew use of causative verbs (*hu'af* 'was made to fly') and relatively undifferentiated mention of directionality; the German marking of manner by the use of special verbs and adverbs, and elaborated encoding of directionality by verb particles and prepositions. Each of the five languages has its own ways of encoding causality, manner, and directionality of action, and children seem remarkably sensitive to the available means of expression from early on. That is to say, even the 3-year-olds recount events in accord with the particular "slant" of their language, as opposed to presenting simple "unelaborated" versions that would be roughly identical across languages. We will take up each of these issues separately, in crosslinguistic and developmental perspective.

DIRECTIONALITY

The fall from the cliff includes source (cliff), path (downward motion), and goal (entry into water), as well as manner (abrupt, precipitous, etc.) and cause ('fall' versus 'be thrown'). The narrator has options with regard to mentioning and elaborating these elements. Furthermore, each language provides means for more or less compact or elaborated encoding of change of location, as we will explore in some detail.

Almost all narrators make some mention of downward movement with regard to Pictures 11 and 12a, making use of verbs like ‘fall’, adverbial particles like ‘down’, and locative prepositional phrases like ‘into the water’. English and German have rich collections of locative particles, and even the threes use them freely with verbs (e.g., *fell down*, *fell off*; *fällt runter* ‘falls down’). Spanish, Turkish, and Hebrew, by contrast, tend to use verbs of inherent directionality (the equivalents of ‘enter’, ‘exit’, ‘ascend’, ‘descend’, etc.), with much more restricted use of locative particles. Threes in these languages tend to use simple verbs corresponding to ‘fall’ and ‘throw’ or ‘make-fall’.[5] All of the five languages in our sample allow for specification of the goal of directed motion by use of a locative phrase (prepositional phrases in English, German, Spanish, and Hebrew, e.g. ‘fell in(to) the water’; locative case endings on nouns or postpositions in Turkish, e.g. *su-ya düştü* ‘water-DATIVE fell’ or *suyun için-e düştü* ‘water in-DATIVE fell’ [=fell in(to) the water]). Locative phrases such as these are used by 3-year-olds in all of the languages, with different distributions of the occurrence of verb alone and verb with additional adverbial specification. Use of these options by 3-year-olds is presented in the following table, based on all occurrences of verbs of motion in reference to Pictures 11 and 12a:

Table 2

PERCENTAGES OF TYPES OF MOTION DESCRIPTIONS USED BY 3-YEAR-OLDS

	Verb	Verb + Locative Particle	Verb + Locative Phrase
English	7	50	43
German	0	75	26
Spanish	57	0	43
Turkish	61	0	39
Hebrew	58	0	42

Excluding German for the present, the four other languages are quite similar in their use of the third option, Verb + Locative Phrase. This suggests that all of these children are similar in the extent to which they specify the goal (or, occasionally, the source) of movement. However, with rare exception, the

[5] The Spanish, Turkish, and Hebrew verbs do not carry the connotation of elevated register of their Latinate equivalents in English; rather, they are the everyday verbs of directional motion. German has some verbs of inherent directionality as well (e.g.*verlassen* ‘exit’, *betreten* ‘enter’); but these verbs require explicit mention of source or goal. Thus one can simply say ‘(he) exited’ in Spanish (*se salió*), Turkish (*çikti*), or Hebrew (*hu yatsa*), but one cannot say, in German, **er verliess*, but rather must specify some source (e.g., *er verliess das Haus* ‘he left the house’). It is thus characteristic of German (and English) to devote relatively more linguistic attention to sources and goals. It is also noteworthy that locative particles are used as primitive verbs at the one- and two-word periods in German and English child language, as, for example, *zucker rauf* ‘sugar on’ (scattering sugar on cookies) (Miller, 1979, p. 342); *down* (said after doll falls over) (Bloom, 1973, p. 165). By contrast, early speech in Hebrew contains the equivalents of infinitive and imperative forms of verbs to express similar notions (Berman, 1978). (We thank Christiane von Stutterheim for these observations about German.)

English and German children do not use bare verbs without a locative particle. One English child said *he's falling* [E-3b]; otherwise, all Germanic-speaking children (English and German) say the equivalents of 'throw down', 'fall down', and 'fall off' when using verbs without additional locative phrases. Their non-Germanic peers, by contrast, are content to say the equivalents of simply 'throw' and 'fall'. Since it is possible to do the same in English and German, we must conclude that the Germanic-speaking 3-year-olds have already assimilated the pattern of pervasive use of locative particles characteristic of their languages.

The deviance of German in the third column (26% of locative phrases, in contrast to about 40% in the other languages) may indicate that these children are aware of the expression of directionality in the Verb + Particle constructions, and feel less constrained to concretely specify the actual location. It is not entirely clear, however, why English and German should differ in this regard. The difference may be due to the fact that the system of locative particles is more pervasive and elaborate in German, and that redundant and obligatory uses of particles make them both more frequent and more salient. Compare, for example, the English *the boy fell DOWN INTO the lake* and a German 9-year-old's version: *der Junge fiel HERAB IN den See HINEIN* 'the boy fell DOWN-HERE INTO the lake THEREIN' [G-9l]. (*Cassell's German Dictionary*, 1958, offers the following definitions: *herab* "indicates movement downward as seen by the person below" and *hinein* "penetration into something, sometimes as seen from the outside.")[6] This degree of locative specificity seems to exceed that of English, and may allow German children as young as 3 to rely more heavily on verbal expression of locative sources and goals, without additional nominal specification in locative phrases. The German fives and nines also tend to use fewer locative phrases than their age-mates in the other languages.

A comparison of narrations of the fall from the cliff across ages shows both greater frequency and greater diversity of locative particles and prepositions in German than in English:[7]

Table 3

USE OF LOCATIVE ELEMENTS IN ENGLISH AND GERMAN

	Threes	Fives	Nines	Adults
ENGLISH				
Number of Types	5	4	4	5
Average Number of Tokens per Subject	1.5	1.1	2.0	2.3
GERMAN				
Number of Types	4	3	6	11

[6] Christiane von Stutterheim (pers. comm.) has reminded us that: "These 'separable prefixes' (*abtrennbare Präfixe*) are certainly a German specialty. They differ from the English particles in a number of respects: e.g., they are prefixed to the verb if the verb does not function as the finite verb in the sentence; they are moved to the end of the sentence if they are part of the finite verb (therefore they might be more salient than in English)." These facts are clearly related to the precocious use of the prefixes as separate elements, as mentioned in footnote 4, above.

[7] The English types are: *down, in, into, off, over*; the German types are: *ab, hinab, herab, runter, hinunter, herunter, in, rein, hinein, drin, dahin, her, von, über*.

Average Number of Tokens per Subject	1.7	1.7	2.2	2.8

The non-Germanic languages in the sample present a clearly contrasting picture. Some 5-year-olds in Spanish and Turkish try out the few locative adverbial particles offered by their languages, as the Spanish *tiró abajo* [S-5b,e,g] and the Turkish *atti aşağiya* [T-5a], both 'throw down(wards)'. And there are a few examples in Spanish fives of what seem to be overexplicit uses of locative prepositions to mark the goal of directed motion: *se cayó DENTRO DE un agujero* '(he) fell INSIDE OF a hole' [S-5a] and *se cayó ENCIMA DEL agua* '(he) fell ON TOP OF the water' [S-5e]. These examples suggest a possible phase of elaborated attention to locative specification for some children. (Hebrew children make sparse use of locative specification, and only adults provide an occasional instance of *(le)mata* 'downwards'. The relative under-elaboration of locative elements in the Hebrew stories is probably due to the fact that the five basic locative prepositions are highly polysemous, while verbs of motion carry rich information with regard to features of directionality, manner, and transitivity.)

Such 5-year-old attempts are transient. By age 9, the non-Germanic-speaking children have arrived at a syntactic solution that is better adapted to the semantic characteristics of their languages. The Germanic nines tend to conflate directionality, source and/or goal in one clause--as, for example, the English, *he tips him off over a cliff into the water* [E-9k] or the equivalent German, *schmiss ihn den Abhang hinunter genau ins Wasser* 'hurled him down from the cliff right into the water' [G-9d]. By contrast--as if they sense that their language does not provide the means for such compact expression--a widespread narrative strategy in the other three languages consists in setting the scene in separate locative phrases, especially relative clauses with existential or stative verbs, and then referring back to this scene with a general verb of motion. Thus these children accommodate to the fact that there is little possibility of detailed specification of directionality in the verb and its satellites in their languages. The following examples are typical, and strikingly similar:

(3) *El ciervo le llevó hasta un sitio, donde debajo había un río. Entonces el ciervo tiró al perro y al niño al río. Y después, cayeron.*

'The deer took him until a place, where below there was a river. Then the deer threw the dog and the boy to the river. And then, they fell.' [S-9b]

(4) *Ancak önlerinde bir uçurum vardi. Altida göldü. Çocuk hiz yaptiği için, geyiğin başindan köpeğiyle birlikte düstü.*

'Just in front of them there was a cliff. Below there was a lake. Because the boy was making speed, he fell from the deer's head together with his dog.' [T-9j]

(5) *Ve ha'ayil nivhal, ve hu hitxil laruts. Ve hakelev rats axarav, ve hu higia lemacok she mitaxat haya bitsa, ve hu atsar, ve hayeled ve hakelev naflu labitsa beyaxad.*

'And the deer was startled, and he began to run. And the dog ran after him, and he reached a cliff that had a swamp underneath, and he stopped, and the boy and the dog fell to the swamp together.' [H-9i]

What we see here is the reflection of pervasive typological differences between the languages in our sample. These differences have consequences for the ways in which narrative can be structured at the micro-level--both lexically and syntactically. The three non-Germanic languages have a small collection of fairly general locative-directional markers. The most frequent preposition in the Spanish texts is *a*, which simply indicates goal: *caer al agua* is 'to fall to/in/into the water', while *caer al suelo* is 'to fall on/to the ground'. The Turkish dative case-marker, *-A*, has the same multiplicity of functions, as does the

Hebrew dative preposition *le* ‘to’. Accordingly, locative specification is carried by verbs with inherent directionality, in syntactically elaborated scene-setting and chaining contexts, such as those presented above, and other types of elaborated constructions. And even the locative forms themselves--prepositions, postpositions, locative case-inflections, adverbial particles--are used less frequently, and seem to develop more slowly, than the corresponding Germanic items. At least this is the picture suggested by analysis of narrations of the fall from the cliff. The following table presents some of the figures from Table 3 once again, adding the non-Germanic languages for a full picture of the average number of locative elements in the narrations of the fall from the cliff:[8]

Table 3a

AVERAGE NUMBER OF LOCATIVE TOKENS PER SUBJECT

	Threes	Fives	Nines	Adults
English	1.5	1.1	2.0	2.3
German	1.7	1.7	2.2	2.8
Spanish	1.1	1.2	1.2	2.2
Turkish	1.1	1.3	1.4	2.1
Hebrew	.7	.9	1.4	1.8

MANNER

The five languages also differ in the available lexical and syntactic means for indicating the **manner** in which a change of state occurs. With regard to the verbs involved in this episode--verbs of running, throwing, falling, and landing--each language provides means of indicating (a) the **protraction** of the event in time, (b) the dynamic **intensity** of the event, and (c) the **suddenness** of onset or termination of the event. The languages differ in how these features of manner are encoded in the grammar and the lexicon.

Protraction

We initially picked this episode for detailed analysis because it presented two views of falling: a depiction of the boy and dog in mid-air in Picture 11, and a depiction of the end-state in Picture 12a. Although ‘fall’ is typically discussed as a verb of inherent **punctual** aspect, here is a situation in which a falling event is slowed down, as it were, and can be seen as both ongoing (durative) and perfected. English, Spanish, and Turkish have a **progressive** aspect, while German and Hebrew do not, so that we

[8] The table includes the following locative elements for the non-Germanic languages: Spanish: *a, de, desde, por, en, dentro de, encima (de), abajo*; Turkish: *-A, -DAn, aşaği(ya), aşağidan*; Hebrew: *el/l’, mi, b’, be-/le-/el tox ,me’-/le- ever, (le)mata*. Note that this full range of diversity does not reflect child usage. In Spanish, the only preposition that was frequently used by children was the goal-marker *a*, and no child used *sobre* or *en*. Similarly, in Turkish, the only frequent inflection was the goal-marker *-A*, with occasional use of source-marker *-DAn*. In Hebrew, again, the most frequent form was the general goal-marker *el/l’*, with 5-and 9-year-olds making some use of forms meaning ‘into’ (*be-/le-/el tox*); no children used *me-/le- ever, (le)mata*, or *b’*. Thus the non-Germanic children are limited both in the number of types and number of tokens of locative elements.

can ask whether narrators make use of the progressive-nonprogressive distinction to differentiate these two pictures.

Indeed, we found that children as young as age 3 make effective use of aspectual marking in describing Pictures 11 and 12a, indicating an early grasp of the semantics of the relevant verbal inflections. English children often switch from Present Progressive to Past (*falling down--fell*). Turkish children also often switch from Present Progressive to Past (*düşüyor* 'falling'--*düştü* 'fell'), or from Progressive to Nonprogressive Past (*düşüyordu* 'was falling'--*düşmüş* 'fell'). Spanish children, rather than make use of the Progressive to mark falling in progress, use the Present Perfect, generally with the particle *ya* 'already', to indicate the end-state, in contrast to simple Present or Future for the preceding picture (*se caen* 'they fall'--*ya se han caído* 'they have already fallen'). The same option is taken by the German threes, using a language in which the Perfect is the only aspect marked by verbal inflection (*fallen runter* 'fall down'--*sind ins Wasser gefallen* 'have fallen in the water'). Hebrew has no grammaticized aspect, and Hebrew threes use the single available past tense (*nafal* 'fell') for both pictures.

Interestingly enough, these semantically motivated uses of Progressive and Perfect are found only in the 3-year-old stories. From age 5 on, this episode tends to be narrated in a single tense, and aspectual contrasts are used, instead, to fulfill narrative functions of a broader scope.[9] The threes tend to describe what they see in each picture, with little or no narrative cohesion. (Most of them, for example, do not mention the causal role of the deer.) Accordingly, their uses of Progressive aspect for Picture 11, or Perfect for Picture 12a, are quite appropriate as locally motivated, ongoing commentary. It is striking that children younger than 3;6 have mastered these devices for marking dynamic-stative or ongoing-completed distinctions in English, Turkish, German, and Spanish. It is also noteworthy that Hebrew children make no recourse to adverbial or other periphrastic forms to make similar distinctions in **their** language (e.g., using words like 'now' or 'just'). Here--as in many points in this study--children seem to be guided in what they choose to talk about by the most available grammatical means provided by their language, neither compensating by additional means where the language is relatively under-elaborated, nor simplifying where the language is relatively elaborated.

It turns out, then, that the function of the Progressive is not to mark protraction, but simply durativity or extension in time. Protraction is a more expressive notion, and is marked often in this episode as a kind of intensive manner--sometimes to highlight or stretch out the fall from the cliff, but, more often, to extend the drama of the deer running towards disaster in the preceding picture (10b). The most common device (in each of the languages except Spanish) is simple repetition of the verb, as in the following examples:

(6) *Çocuk düşüyordu, düşüyordu düşüyordu. Az kalsin, düşmüş. Düşmüş.* 'The boy was falling, was falling, was falling. He almost fell. He fell.' [T-3c]

(7) *Az hem hitgalgelu ve hitgalgelu ve hitgalgelu! Az hem kol hazman mitgalgelim.* 'Then they rolled down and rolled down and rolled down. Then they roll down all the time.' [H-3l]

(8) *And then the deer pulls him up, and then it runs and runs to get the dog, and then they fall into the water.* [E-5h]

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[9] We will consider such functions in detail elsewhere. Briefly, more mature narrators can make use of aspectual contrasts to express differentiated perspectives on events as part of a more embracing narrative, with attention to simultaneity and sequentiality, foregrounding and backgrounding. For example, a 5-year-old can use Past Progressive and simple Past to describe two events of differing temporal contours that overlap in time, such as *while they were sleeping the frog climbed out*.

Nine-year-olds begin to use more specialized grammatical and lexical devices for protraction in each language, such as: *The deer KEPT running ahead* [E-9e]; *rannte IMMER SCHNELLER fort* 'ran EVER FASTER onwards' [G-9l]; *El perro VA LADRANDO mientras que el ciervo lleva en la cabeza al niño* 'the dog GOES BARKING while the deer carries the boy on its head' [S-9f]. (There are no examples of such expressions of protraction for this scene in Turkish or Hebrew.)[10]

Intensity

It is characteristic of the Germanic languages to conflate manner and change of state in a single verb, as discussed in detail by Talmy (1985) (e.g. Romance 'go' versus English *go, walk, ride, swim, float, creep, crawl, saunter, stride, jump, hop, gallop, skip, ski, bike, skateboard*, etc.). English conflations of manner and movement include a number of types of manner: means of locomotion (*swim, ski*), rate (*saunter, jog, run*), motor pattern (*hop, skip*), intensity (*run, dash*), etc. With regard to our little episode, English and German have a rich vocabulary to distinguish the **intensity** with which a change of location is effected, and this vocabulary is used widely from the earliest ages. Spanish, Turkish, and Hebrew children rely almost entirely on the basic equivalents of 'throw' and 'fall'. While their Germanic peers **could** do the same, they often do not, as indicated by the following colorful range of verbs used by child narrators (with no evident developmental pattern):

ENGLISH. Threes: *knocked them off, splashing in water*; **Fives:** *knocked them in the water, splashed in some water, they go splash splash!*; **Nines:** *dumped them off a cliff, dumped them into the water, bucked him off, tips him off*.

GERMAN. Threes: *schmeisst den runter* 'hurls him down', *hat die beiden reingeschuppst* 'shoved them both in', *die plumpsen da runter* 'there they plop down'; **Fives:** *schmeisst ihn ins Wasser* 'hurls him into the water'; *hat den runtergeschuppst* 'shoved him down'; **Nines:** *schmiess ihn den Abhang hinunter* 'hurled him down off the cliff', *fliegen kopfüber in den See* 'fly headlong into the lake'.

Again, it seems that children--from the youngest ages sampled--make ample use of the options provided by their language when picking the perspective and style of narration of particular events.

Suddenness

Another dimension of manner, closely related to intensity, is the suddenness or abruptness of onset or termination of a change of state. In fact, versions of 'splashing' reported above also partake of suddenness, as do other means of marking the impact of the collision. Here all of the languages provide expressive verbs and particles, and they appear occasionally throughout the data--again, with no evident developmental pattern. (It is curious, though, that such colorful expressions, when they do appear, tend to be produced by either the youngest children or the adults.) The following is a full summary of expressive marking of termination in this episode (in addition to the 'splash' verbs):

ENGLISH. Threes: *pow! over they went!, pow! into the water, he fall down--bonk!*; **Adults:** *splats in some water*.

GERMAN. Adults: *wirft husch in einem Schwung den Jungen ab* 'throws the boy off, whoosh, in one bound', *schwupp schmeisst ihn den Abhang hinunter* 'presto, he hurls him down off the cliff',

[10] Beyond the level of the clause, protraction is an important element of narrative style, where speakers have widely varying options in choosing the **tempo** or **rate** of presentation of events. This is the topic of a separate presentation.

schwuppdiwupp plattsch sind beide im Wasser drin 'presto, plop, the two of them are in the water', *bis er plattsch in einen kleinen See hineinfällt* 'until he, plop, falls down into a little lake' (4 examples), *purzelt da hinein* 'tumbles in', *stürzen in ein Wasser* 'plunge into some water'.

SPANISH. Threes: *ya le ha tirado al agua--plum!* 'he's already thrown him to the water--plum!'; **Adults:** *zas!--se cayeron al suelo* 'zas!--they fell to the ground'.

TURKISH. Threes: *bong düştüler* 'they fell bong'; **Fives:** *cup denize düşüyorlar* 'joop they fall in the sea'; **Adults:** *cumbadanak bir suya düşüyorlar* 'splash they fall in some water', *cumburlop suya düşüyorlar* 'plop they fall in the water'.

HEBREW. Adults: *noflim lamayim be platsch gadol* 'they fall in the water with a big plop'.

We discuss the issue of inchoative aspect, or marking of inception, in a later section. Here let it simply be noted that each of the languages also allows for use of intensive inceptive (and terminative) particles such as 'suddenly'; verbs of intensive inception, such as English *take off*; and verb particles of intensive inception, such as German *losrennen* 'to set off running'. These devices are used occasionally, adding additional expressive coloring in language-specific ways.

CAUSALITY

The causal high point of our scene is, of course, the action of the deer in causing the boy to fall off the cliff. In mature narrations, this is seen either as the deer **throwing** the boy, or as the deer **stopping suddenly** and thereby causing the boy to fall off.[11] Both interpretations have linguistic consequences, which we will consider briefly. First of all, though, it should be noted that many of the younger children make no mention of the causal role of the deer at all, simply mentioning that the boy and dog fall. In all five language groups there is a clear development of attention to the deer, with uninterpretable differences between the groups in rate of development.

Table 4

PERCENTAGE OF CHILDREN MENTIONING CAUSAL ROLE OF DEER

	Threes	Fives	Nines
English	30	56	92
German	50	67	75
Spanish	58	82	90
Turkish	44	70	100
Hebrew	33	50	83

With only six exceptions, all of the children who mention the role of the deer make it an active agent who 'throws' the boy off and/or down. Hebrew has a productive causative, taking the root *n-p-l*

[11] In psychological terms, there is an interesting development in attribution of motives and inner states to the participants. While these issues are relevant to causality, they do not have linguistic consequences of the sort considered here.

‘fall’ and putting it in another morphological pattern: this results in a pair of verb forms, as in the past tense *nafal* ‘fell’--*hipil* ‘made fall’ (=dropped). Almost all of the Hebrew children used this form to refer to the action of the deer.[12] By contrast, the children in the other languages overwhelmingly preferred monomorphemic verbs meaning ‘throw’. Only two English children (one 5- and one 9-year-old) used the periphrastic *make fall*, and only two Turkish 3-year-olds used a verb with a causative morpheme (*düş-ür* ‘fall-CAUS’) rather than the monomorphemic *at* ‘throw’. There is evidence that the Hebrew form becomes productive from about age 4 (Berman, 1985). We suspect, however, that the threes and fives do not take an analytic approach to the causal texture of this event, and are content to refer to the deer simply as one who ‘throws’, using whatever verb form is most common for this action in the language.

Some 9-year-olds **do** take an analytic approach, but this is not reflected in a causal elaboration of the verb for ‘throw’, but rather in a causal chain which attributes the boy’s falling to the fact that the deer stops suddenly. (This interpretation is offered by 14 adults, in all five languages.) These accounts are interesting in that they go beyond the pictures, searching for causal links. The six examples are worth presenting verbatim, as suggestive of new developments between ages 5 and 9:

(9) *And the deer ran. With the boy on his antlers. So the dog was chasing the deer. And the deer just stopped, and the boy and the dog fell off a cliff. Into a swamp.* [E-9i]

(10) *And the deer came up, and caught him by the horns, started running, running over to the cliff. So the dog followed, and started stum- stumbling and made him fall into the lake, with the dog.* [E-9f] (The causal links are not entirely clear here. It is interesting that this child is the only 9-year-old who used the periphrastic *made fall*.)

(11) *Plötzlich bleibt der Hirsch aber stehen und Peter und der Hund fliegen kopfüber in den See.* ‘But suddenly the deer stops and Peter and the dog fly headlong into the lake.’ [G-9f]

(12) *Da fällt da- da bleibt der Hirsch stehen und da lässt- macht er sein Kopf runter und da falln alle beide rein im Wasser.* ‘There fall- there the deer stops and lets- puts his head down and there they both fall into the water.’ [G-9g] (The repairs suggest that the child has tried several times to reorient the perspective on this event. He begins to speak of falling, but jumps back to add the causal element; then he seems to begin another causal interpretation with ‘lets’, but changes to a simple chaining of events without explicit causal linking.)

(13) *Und da bleibt der stehn und da fällt der Junge und der Hund runter in den Fluss.* ‘And there he stops and there the boy and the dog fall down into the river.’ [G-9h]

(14) *Ve hu atsar, ve hayeled ve hakelev naflu labitsa beyaxad.* ‘And he stopped, and the boy and the dog fell to the swamp together.’ [H-9i]

It is evident from these few 9-year-old attempts that the narration of causal sequences continues to develop through the school years. We find nothing at this age like the full adult versions, such as the German example given in (2) above, or the following fully explicit English version:

(15) *The deer takes off with the boy strewed across his antlers, and the dog runs at his feet yelling at him to stop it. They’re approaching a cliff, and the deer stops abruptly, which causes the boy to lose his balance and fall with the dog down into the stream.* [E-20f]

Such versions, of course, reflect a mature narrative skill, involving the ability to flexibly alternate between foreground and background information, using syntactic means of subordination and conjunction. (The development of these skills is the topic for a separate report.)

[12] One 5-year-old said *he’if* ‘made fly’ (the causative form of intransitive *af* ‘fly’), and one 9-year-old said *zarak* ‘threw’ (monomorphemic verb).

ENTRY INCIDENTS

We have picked two additional scenes to illustrate a special case of **inchoative** aspect, in the sense of inception of an accidental situation, i.e., nonvolitional entry into a situation. The first, depicted in Picture 3a, shows the dog with his head inside a jar which in the preceding picture is shown as empty (since the frog has left it), and which in the next two pictures is shown as still being on his head as he gets up onto a window sill and then falls out of the window. Here we are interested in the means used by children to describe the change-of-state involved in the dog's entry into the jar (or whether they simply refer to the state itself, without indicating its inception). The second, depicted in Picture 10a, is the antecedent to the falling episode analyzed above. This picture shows the boy caught, lying across the neck of a deer (in fact, caught between the antlers which the boy had mistakenly clung onto in the preceding picture, thinking they were branches of a tree).

Both scenes, then, show the entry of a protagonist into a situation over which he has no control, and which has consequences for the unfolding of the story: the dog's entry into the jar leads to his leaning and then falling out of the window, to be joined outside by the boy in their search for the missing frog; and the boy's being seized by the deer leads to his being carried off and then thrown into the water. The difference between them is that in the first, the dog interacts with an inanimate object, whereas in the second, the boy and the deer could both be perceived as agents or as patients of the situation. Thus, the scenes in question highlight the interconnection between two different but related types of **perspective:** (a) aspectual perspective, construing the event as stative (ongoing or completed end-state) or as dynamic (entry into or change of state); and (b) voice perspective, focusing on the protagonist as an agent performing an action (transitive or causative predicates) or as patient undergoing or experiencing a situation (middle-voice or passive intransitive predicates). These different perspectives are illustrated from the descriptions of English-speaking 5-year olds in relation to the boy's getting caught on the deer's antlers, thus:

(16) (a) *The boy GOT ON a reindeer.* [E-5b]

(b) *Something came up and the boy WAS ON it.* [E-5i]

(c) *The boy GOT PICKED UP BY a reindeer.* [E-5f]

(d) *The deer LIFTED the boy UP.* [E-5c]

In developmental terms, we expect that children will proceed from treating the boy as acting (16a) or as being in a state (16b), to seeing him as patient of a change of state (16c), and subsequently viewing the deer as responsible (16d). This last perspective reflects an ability to shift attention from the boy as main protagonist. In crosslinguistic terms, these scenes enable us to look at issues of locative directionality, voice, and causativity. We assume that children speaking languages which lexicalize directionality of movement within the motion verb (Hebrew, Turkish, and Spanish) will use such verbs more than learners of English or German, who will rely on analytical forms with participials, as discussed above with regard to verbs of falling and throwing. We expect English children to make frequent use of inchoative, middle-voice types of predicates, like those with the auxiliary *get* and a participle, as in (16c), while similar constructions are not as readily available in German. Turkish and Hebrew children may take advantage of the morphological marking of causative and passive on the verb-stem to distinguish middle, intransitive, patient-orientation from active, causative, agent-orientation.

A second developmental and crosslinguistic issue illuminated by these scenes is how the "entry into a situation" event is embedded within the series of events with which it is causally and/or sequentially interrelated in the story. Specifically, will speakers in different languages and at different ages choose to **condense** entire sequences within one or two closely-packed predicates and their associated arguments, or will they use more analytical, isolating means of expressing a chain of events? Example (16b) illustrates the use of separate clauses to describe the various components of a single scene, as is typical of younger narrators. Compare (16b), repeated as (17a), below, with versions from a 9-year-old and an adult, showing developments in narrative cohesion and perspective:

(17) (a) *Something came up and the boy was on it.* [E-5i]

(b) *A deer came and took him and, running away with him on his- the boy was on his horns.* [E-9g]

(c) *...so he lifted his head up, carrying the boy with him.* [E-20c]

DOG'S ENTRY INTO JAR

We found no appreciable difference, either across languages or across ages, in explicit mention of the dog entering or being inside the jar. Between 70% and 80% of the stories made some reference to this situation in four of the five languages, with 92% in German. Thus this incident was considered across the board as relatively noteworthy--in contrast to, say, the boy's realization that the branches he had been holding onto were in fact the antlers of a deer--which in all the samples was noted by older children and adults alone. (There are clear age-related differences in whether speakers noted that the jar in which the dog got/was stuck was the one where the frog had been, but this is not an issue which will concern us here.)

In principle, reference to entering into the jar rather than to being in the jar might be considered a more complex way of relating to this scene, since the picture itself only shows the dog with his head inside the jar, and the preceding picture does not depict how this may have come about. And indeed we found that predicates of the kind we termed "change-of-state" (middle-voice or passive intransitives with the dog as subject-patient)[13] occurred almost exclusively among 9-year olds and adults, only occasionally in preschool (3- and 5-year-old) stories. The most surprising finding here, however, was that these predicate types were confined to two languages--English and Hebrew--and were far more common in English (11 out of 33 mentions) than in Hebrew (5 out of 37 mentions). These are illustrated below for the two languages in question.

(18a) *And then the dog f ... sticks his ... head in and he GETS CAUGHT.* [E-5k]

(18b) *Then- the dog he- he g- he GETS STUCK in the bowl.* [E-9b]

(18c) *er ... The dog had got a- GOT the jar STUCK on his head* [E-9k]

(19a) *Ve ha-kelev hixnis et rosho letox ha-kufsa she ba hayta, ve NITKA.*

'And the-dog inserted-[+CAUS] (=made-enter) his head inside the-can where she was [=the frog had been] and GOT-STUCK-[+MIDDLE]' [H-9b]

(19b) *Yoye xipes betox ha-dli shel ha-zxuxit ve NITKA lo sham ha-rosh.*

'Yoye [dog] searched inside the-pail of glass and GOT-STUCK-[+MIDDLE] to-him-[DATIVE] there his-head.' [=and his head got-itself stuck there] [H-20g]

(19c) *Ha-kelev maxnis et ha-rosh shelo letox ... tsintsenet ve ha-tsinsenet NITPESET lo al ha-rosh.*

'The-dog inserts-[+CAUS] its head [ACC] inside ... (a) jar and the-jar GETS-CAUGHT-[+MIDDLE] to-him on the head' [=and the jar goes and gets / he goes and gets the jar caught onto his head] [H-20h]

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[13] Recall that all our five languages are accusative, non-ergative in typology.

In English, the single other most favored way of expressing this event is by means of a transitive verb of insertion--mainly the abrupt manner verb *stick* (e.g., *he sticks his head in the jar* [E-5k], *he sticks his head in* [E-20j]). (Younger children use the general purpose verb of change-of-location, *put*, more often, and this is replaced by more lexically specific verbs like *stick* from age 5 on, certainly among the 9-year olds and adults.) Thus, the abrupt onset of the event is shown by the manner feature incorporated in the lexical item in English--and, we shall see, to some extent in German, too--by contrast with the three other languages. We noted earlier that from age 9 on, English children use the middle-voice intransitives *get stuck* and *get caught*. For younger children, we find that half of the 5-year olds who mentioned this event used a stative-passive form, such as *he was stuck in the jar* [E-5b], *he had a jar stuck on his head* [E-5d]. (One 5-year-old used the intransitive version without an inchoative auxiliary, *the jar stuck on his head* [E-5e].) These findings suggest that English children may first orient to the state of 'being stuck/caught' or 'having something stuck/caught', only later acquiring means to refer to the more dynamic entry into a state by means of the auxiliary *get*.

Unlike the English speakers, the Hebrew speakers use far more transitive verbs of putting or inserting compared with intransitive getting stuck or caught. And here the lexical progression is quite different: preschoolers do use the general verb meaning 'put' much as their English counterparts, but three out of the four 5-year-olds do this with a periphrastic form of abrupt onset 'took (the jar) and put/inserted it'. Beyond that, across the board, the Hebrew speakers, as expected, use the **causative** morphology for the verb 'go-in'. That is, for the root *k-n-s*, they use the causative verb-pattern form, *hixnis* 'cause-to-go-in, make-get-in, insert', which contrasts with the intransitive verb-pattern form, *nixnas* 'go-in, get-in, enter'. For example:

(20) *Hakelev hixnis et rosho letox hakufsa.*

'The dog made-go-in [=inserted] his head into the jar.' [H-9b]

Turkish children take a different perspective in their use of causative verbs. In only three instances do we find that it is the **head** that is being acted upon, as in:

(21) *Köpek kafasini kavanoza sokuyor.*

'Dog-NOM head-POSS-ACC jar-DAT inserts.' [=the dog puts his head in the jar] [T-9f]

The more common pattern is to treat the jar as the patient that is moved to the dog's head, as in:

(22) *Köpek başina kavanozu geçiriyor.*

'Dog-NOM head-POSS-DAT jar-ACC passes-CAUS.' [=the dog causes the jar to pass onto his head] [T-3b].

More than half of the children take this option, using the transitive verbs *geçir* 'cause-to-pass' and *giy* 'put-on [clothing]'. The remaining children use verbs of entering, almost always being careful to specify that only the dog's head has entered the jar, thus giving the event an involuntary connotation. One 3-year-old even corrects himself in this regard:

(23) *Köpek kavanoza girmiş. Kafasini yani.*

'Dog-NOM jar-DAT entered. Head-POSS-ACC that-is.' [=the dog went into the jar--his head, that is] [T-3c]

The repair puts 'head' in the accusative--not possible with this intransitive verb, but indicating the child's intention to treat the head as patient. Thus the Turkish children are quite consistent in treating this event as something that happens to the dog's head.

A rather different picture is provided by the Spanish speakers, who seem to present only two clear versions of this event: One-third of the children, though no adults, who mention this event in Spanish refer to it as a state, with the verbs *estar* ‘be’ or *tener* ‘have’; or else, from age 5, as an end-state with a participial such as *con la cara metida en la botella* ‘with his face inserted in the bottle’. But by far the bulk of all the Spanish simply use the single verb *meter* ‘insert’ with a locative preposition such as *en* ‘in(to)’ or *dentro* ‘inside’. The difference in developmental terms is that while nearly all the threes and fives who use this verb (8 out of 9) use it in a reflexive form with *se*, few of the 9-year olds and none of the adults do so. Essentially, this is because the younger children speak of the dog ‘putting-himself’ (*meterse*) in the jar, while older narrators speak of the dog ‘putting his head’ (*meter la cabeza*) in the jar. Some of the very young children seem to have difficulty with the distinction between inserting a body part (non-reflexive) versus fully entering a container (reflexive), as indicated by the following ungrammatical uses of the reflexive with body-part insertion:

(24a) *El perro se metió la cabeza en el bote.*

‘The dog put-REFL the head in the jar.’ [S-3j]

(24b) *Se mete el perro el morro.*

‘Puts-REFL the dog the snout.’ [S-4d]

Finally, in German an altogether different picture emerges: There are several different ways used by speakers to talk about this event, so that there is a diversity of perspective and of lexical choice not found in the other four languages. One third refer to the state of the dog being inside the bottle with *ist* ‘is’ or to the dog’s having its head inside the bottle with *hat* ‘has’; while a few of the older speakers refer to this as an end-state, e.g. *bleibt stecken* remains stuck’. Another third use some general verb of activity such as ‘look/search inside’, ‘sniff/smell in’. And another third are divided up evenly between general verbs of motion *geht rein* ‘goes in’ typical of the younger speakers, with 9-year-olds and adults preferring a transitive verb of insertion such as *tut* ‘puts’, *steckt*, ‘sticks’, or *stülpt* ‘crams’. The other remarkable fact about the German narrators is that in 14 out of 44 references to this scene--and in half of the references made by 9-year-olds and adults--there is overt mention of the fact that the dog could not get out of/could not get free of/could not get away from the bottle. This is in marked contrast to the four other languages, where the dog’s being unwillingingly caught there and hence unable to extricate himself is overtly mentioned by no more than three to four speakers in each sample. (In English, *he couldn’t get it off*; in Hebrew, *lo yaxol le-hotsi/le-horid et ze* ‘he could not take-out/take-down [=CAUSATIVE] it’; Spanish, *no se pudo sacar* ‘he could not remove (it)’; Turkish, *bir türlü çikaramadi* ‘couldn’t remove [=CAUSATIVE] (it) at all’.) This strongly confirms the finding reported for the other scenes analyzed to date: the German speakers use more analytical devices for accumulating or adding on aspects of the event--entering and then not getting out, being inside and unable to get free, and adding locative-directional detail. They do not ever do anything equivalent to middle-voice English *get stuck/get caught* with its auxiliary plus participle construction, or Hebrew *nitka*, *nitpas* ‘get-stuck/get-caught’ with the middle-voice niCCaC verb-morphology.

What emerges, then, is a clear favoring of one set of devices in a given language: Looking at our working summary charts across the English data, one is struck by the prevalence of the verb *get*--either as a main verb of motion or as an auxiliary of inchoative change-of-state-specification of direction being provided by the analytic devices of locative prepositions and/or particles. In lexical terms, the manner of abrupt onset is shown by the common use of transitive *stick* and perfect *stuck*. In Hebrew the intransitive verb of entry, *nixnas*, or its causative counterpart, *hixnis* (with the same consonantal base *x-n-s*) is the least marked way of talking about this event. In Spanish the verb *meter* ‘insert’ occurs across the board, with transitivity being differentially marked by means of the reflexive particle *se*. Turkish uses the same verb-stems of motion across ages and stories, treating the jar as patient with transitive verbs like *geçir* ‘put on’, or treating the head as patient with intransitive verbs like *gir* ‘enter’. In German the activities of ‘looking, smelling, sniffing’ are regularly accompanied by statives of being or having with locative particles like *in, drin, auf* ‘in, inside, on’, and an additional comment on the dog remaining in that state or being unable to get out of that state.

In developmental terms, the shift from active, agentive ‘going into, inserting into’ to intransitive, patient-oriented ‘getting-into a situation’ is manifest only in the two languages which have very general grammatical devices for expressing middle voice--English and Hebrew. By "general device" here we refer to the fact that auxiliaries plus participles are the least marked, most typical way of encoding aspectual and voice distinctions in the verb-system of English, while verb-pattern morphological affixation to a consonantal stem is the way in which such distinctions are marked in Hebrew. Apart from this finding for these two typologically quite distinct languages, we see a development in Spanish from use of reflexive to the same transitive verb without a reflexive, showing a shift from ‘self-insertion’ to ‘body-part insertion’; and in German we find that overt reference to an end-state is a relatively later development (the end-state being either an inability to get out/get loose, or the fact of remaining caught in the jar). The Turkish patterns seem to be stable across childhood, with somewhat greater use by adults of the transitive verb *sok* ‘insert’, treating the dog’s head as patient. However, from the start, all three perspectives are available to Turkish speakers: dog-acts-on head, dog-acts-on-jar, head-enters-jar.

What we find, then, is that children from age 3 are able to deploy most if not all of the options available in their language. And by this age they already show a peculiar sensitivity to those forms of expression which are most deeply ingrained in or in some sense "most natural for" their language. Linguistic development then takes the form of an abandoning of less typical forms of expression, accompanied by greater lexical specificity, and more flexibility in the choice of which out of the available range of options they use in what way. The exact same scene is described by speakers of all five languages in ways which are peculiarly suited to the perspectives most naturally encoded in each language. This is not an obvious kind of knowledge, since it involves at one and the same time (a) command of obligatory grammatical markings, (b) recognition of the different options available both in the morpho-syntax and the lexicon, and, no less importantly, (c) cognizance of which of these options are most appropriate under given discourse conditions for expressing particular perspectives on an event.

BOY GETS CAUGHT IN ANTLERS

Unlike the entry into the jar picture, only 40% of the 3-year olds mentioned this incident at all, as against 85% of the adults in the sample. This suggests that the children were confused regarding the relation between this picture and the one preceding--where the boy clings onto what he thinks are branches--and the following one, where the deer runs off with him. In terms of the perspective taken, virtually all the 3-year olds refer to the boy as having climbed or gotten onto the deer, whereas from age 5 on many speakers in all languages describe the event from the perspective of the deer, as having carried off or picked up the boy. For 9-year-olds and adults, the descriptions divide up fairly evenly between those who describe the incident with focus on the boy as being (caught) on the deer and those who focus on the deer as carrying or lifting up the boy. This is explainable along the lines suggested by Karmiloff-Smith’s (1981) analysis of protagonist perspective, where only the older speakers can easily switch perspective from the boy as central figure in each event, to other participants as playing an active role in the events.

In English, progression is from mentioning the boy’s state--*the boy is on (top of) the deer* given by 3-year-olds--to an increasingly middle-voice perspective from the 5-year-olds, half of whom say *the boy got on* or else *the boy got caught/picked up by/on* while the other half use transitive predicates describing a situation in which the deer *gets the boy*, or *lifts the boy up*. These three orientations--the state of ‘being stuck on the deer’, the middle-voice change-of-state ‘getting caught by/stuck on the deer’, and the transitive activity ‘the deer caught him, got him by the horns, lifted him up’--are consistent across the English stories. Major variation in the older stories is in the lexical diversity for change-of-state predicates, which come to include such expressions as *ran into, lands on, slips onto*, and occasional adverbial indication of the abruptness or unexpectedness of the event--where two adults use the terms *accidentally, unintentionally*. Another typically English way of talking about the inceptivity of the event, as the onset or initiation of some chain of events, is use of locative particles; e.g., 9-year-olds and adults say *the deer ran away with him, the deer went running off with him*. This last example also illustrates another more mature device for expressing inchoativity in the English stories--use of "lative" verbs of motion as initiating the event, e.g., *a deer came up and caught him, the deer came and took him*, or the adult E-20e: *a deer pops out and starts giving him a ride unintentionally*--the most elaborate of the English versions of this scene.

The Hebrew descriptions contrast with this in a way consistent with what was found for the entry-into-the-jar-scene: The children aged 3 through 9 use mainly verbs of motion, which, like the verb for ‘enter’, mean ‘ascend’ or ‘go-up’. These account for nearly half of all the descriptions of this scene given by Hebrew children, whereas only one English child used the verb *climb*, and several more used *get on(to)*. From age 5 up, as in English, over half of the Hebrew speakers take a transitive perspective with the deer as subject, using a variety of verbs meaning ‘take, carry, lift, catch’, but without recourse to the directional and inceptive particles noted for English. Moreover, again reiterating the themes noted for English and Hebrew in the entry-into-the-jar scene, most of the older speakers who adopt a middle-voice, intransitive perspective on this scene--with the boy the patient of the incident--do so by means of intransitive verb-morphology, specifically the same *nif’al* verb-pattern noted earlier, e.g., *nitka* ‘was/got stuck’, *nitpas* ‘was/got caught’, *nitla* ‘was/got hung (up on)’, *nishkav* ‘got (himself) laid down on’, as well as an occasional reflexive type verb-pattern also used with an inceptive sense, e.g., *hitlabesh al* ‘got-himself dressed/draped on, *hityashev al* ‘got-himself seated on’. Thus, verb-morphology here intransitivizes to provide a middle-voice perspective on the scene as an event rather than an agent-oriented activity--just as the verb *get* serves the English speakers. And as in English, older speakers give expression to the complexity of the chain of events depicted here by cumulative predicates in the form of lative verbs; e.g., 9-year-old Hebrew speakers say the equivalent of ‘comes a deer and lifts (up) the boy and takes him’ [H-9a]; ‘the deer came-out [=exited] and took him’ [H-9b]. The fact that nearly half of all the Hebrew deer-oriented descriptions of this incident include some additional lative verb may be explained by the need to express some kind of complexity of event-chaining in a language which is typically morpho-lexically synthetic rather than analytic in its predicate construction-types.

Once again, Spanish is more like Hebrew in that the preschoolers typically use a motion verb that includes directionality, in this case *subir* ‘go-up/ascend’, very directly equivalent to Hebrew *ole*. And once again, as in the use of *meter* ‘insert’ in the earlier scene, the transitive, deer-focused orientation tends to be expressed by a quite general verb, *coger* ‘take’. The explanation may be as follows: Spanish has such rich grammatical aspectual marking within the verb--which includes both the perfective/imperfective and the progressive/nonprogressive distinctions as well as a perfect and a reflexive--that speakers may not feel called upon to encode any further information within the verb, such as the semantic specification provided by the directional particles or the manner verbs of the Germanic languages. (The only such verb noted for this scene in Spanish is used by a 5-year-old, *se tropezó encima del ciervo* ‘he stumbled on top of the deer’ [S-5b], which specifies the manner of falling as sudden, accidental, hence inceptive.)

German seems to afford a quite different picture to the Hebrew, sharing some but not all the properties of the English--since, again, it lacks ingrained or readily accessible means for encoding change-of-state inchoatives comparable to English *get caught*, Hebrew *nitpas*. Instead, the German speakers use semantically inceptive types of change-of-state verbs--mainly those meaning ‘falls on’ and ‘hangs fast = holds tight onto’. This latter is somewhat more stative, according with the findings for both of these scenes in German: one-third of all the German descriptions refer to the **state** of the boy as being or sitting in or on the deer; e.g., *war er da drauf* ‘he was up on there’ [G-5e], *sitzt sie drauf* ‘sits on there’ [G-5l]. In the entry-into-the-jar scene, we noted that these stative descriptions were supplemented by reference to the final result of not being able to get out or get free. Here, the inchoative "supplementation" is provided in the descriptions of most of the older speakers by use of adverbs of abrupt onset, mainly *plötzlich* and *auf einmal*, both meaning roughly ‘suddenly’. This serves to compensate for the lack of lexical specification or use of particles or latives found in English and Hebrew for noting that the deer had carried the boy off or away, that the deer popped up and took the boy, etc. And indeed, even the adult Germans use the general transitive verb *nehmen* ‘take’ to describe what the deer did. Moreover, once again contrasting with the typologically related language, English, only two of the German descriptions of this scene, both from adults, had any explicitly passive orientation: *wird genommen/aufgegabelt* ‘is taken/picked up’. The German speakers achieve richness and complexity, then, by abundant use of intensifying adverbs. Apart from those meaning ‘suddenly’, note such expressions as *genau zwischen dem Geweih* ‘right between the antlers’ [G-20b], *hat ihn buchstäblich auf die Hörner genommen* ‘literally took him on the horns’ [G-20c]; and by other periphrastic means such as ‘he notices that’, ‘it turns out to be...’.

Finally, in Turkish, there is--as in the other languages--a developmental change from agent to patient-perspective on the boy and a switch from boy as actor to deer as agent. As in Hebrew and Spanish, small children use the simple verb of motion for what the boy does, rather than what happens to the boy; and only older speakers encode abruptness and change-of-state in some quite explicit way, such as 9-year-olds who talk in terms of the equivalent of ‘he ended up on/found himself on top of’; while adults, as in some of the other languages, tend to use adverbials such as ‘accidentally, by chance, suddenly’ in this scene. The Turkish stories are the only ones apart from English which use passives here, some 9-year-olds and adults using the verb *tak* ‘attach, fasten, hang’, as in *bir geyiğe takilmiş* ‘he got hung on a deer’ [T-9c]. (It is of interest that the passive is found in **this** scene, but not in the jar scene; this is evidently because there is no readily available verb of inserting that can be passivized like the verb for attaching. This is an instance of lexically specific determination of the perspective taken on an event in a particular language, even if the morphosyntactic means are available in principle. Thus a full account of the influence of a particular language on the micro-structure of narrative must have both a syntactic and a lexical component.)

We also note that Turkish uses a quite restricted set of verb-stems in describing this scene across the different age-groups: *çik* ‘go-up’, *düş* ‘fall’, *al* ‘take’, and *takil* ‘get-attached’. As we noted for Spanish from a rather different point of view, it could be that languages like Hebrew and Turkish which, each in quite different ways, have very rich verb morphology--both derivational and inflectional--may be able to make do with a relatively restricted set of lexical verb-stems or roots by contrast with languages like German and English, which as noted above, tend to mark much semantics of manner in the verb-stem itself, as well as in particles or fully analytic modifying adverbs.

The above comparisons again show how children move from using a restricted set of the favored options of their language into a wider range of forms of expression and points of view in keeping both with what their language allows and what it prefers. The second point which emerges is that the notion of "inception" is by no means a monolithic one: It may take the lexical form of inherently change-of-state verbs like *fall*, or more semantically specific lexical items such as *land*; it may be marked grammatically by devices such as English *get* passives and middles, or Hebrew verb-morphology middles and intransitives; periphrastically by particles of location and direction (e.g. ‘ran off with’) and/or addition of lative, motion verbs (e.g. ‘popped up and took him’, ‘came-out and snatched him’); or by adverbs of manner indicating abruptness, such as *suddenly*, or the chance nature of an event, such as the more mature usage of *without noticing, accidentally* or German *aus Versehen* ‘by oversight’ [G-9k]. Depending on the typology of the language and on the nature of the particular inchoativity being expressed in relation to a given scene, older speakers will select their options from a range of devices. The preschoolers in our sample differ from the nines and adults not in the range from which they choose, since they never seem to do "English" type things if they are Hebrew or Spanish, or "German" type things if they are Turkish. Rather, they differ from older speakers in the variety of forms, and of perspectives, which they select in talking about a given scene.

CHOICE OF PERSPECTIVE

We have mentioned the issue of the narrator's choice of perspective at a number of points. Perspective is tied to grammatical voice when the narrator chooses to keep a particular protagonist as subject, whether that protagonist functions as agent or patient in a particular event. Perspective is tied to transitivity and causativity when the narrator takes a particular stance with regard to the reasons why events run off in a certain way. Perspective is also tied to casemarking, since the grammatical roles of nouns change with choice of transitivity, voice, and the semantic requirements of particular verbs. We noted this issue in Turkish, finding that the choice of verb in the jar scene determined the allocation of dative and accusative casemarking to 'jar' and 'head'. As a final observation, consider the following Hebrew examples of descriptions of the dog's entry into the jar:

(25a) *ve ve az ha-kelev nixnas betox ha-tsinsenet*

'and and then the-dog entered inside the-jar' [H-4f]

(25b) *ve ... ha-kelev nixnas lo ba-rosh*

'and ... the-dog entered to-it/him-[DAT] in/with-[LOC/INSTR] its-head' [H-4i]

(25c) *ve ... ve ha-kelev hu lakax et ha-ke'ara shel ha-tsfardea ve sam ota al ha-xalon ... ve sam ota al harosh shelo*

'and ... and the-dog he-[NOM] took ACC the bowl of the-frog and put it on the-window ... and put it-[ACC] on his head' [H-5b]

(25d) *az az ha-kelev halax betox ha ... ha nu- betox ha-tsinsenet*

'so so the-dog went inside-[LOC] the ... the whatsit- inside the-jar' [H-5d]

(25e) *ve ha-kelev e...m nixnas im harosh shelo letox ha-tsinsenet*

'and the-dog e...r entered *with* his head to-inside the-jar' [H-5k]

(25f) *ve axarey ze ha-kelev nitka ha-kufsa* [ungrammatical] *im ha-rosh*

'and after that the-dog got-stuck-[MASC] the-can-[FEM] [sic] *with* his-head' [H-5l]

(25g) *ve ha-kelev xipes ota ba ... cincenet she hu nixnas* [ungrammatical] *im ha-rosh*

'and the-dog looked-for [=sought] her [=frog] in-the ... jar that he entered [missing prepositional copy 'into-it'] with his-head' [H-9c]

(25h) *ha-kelev xipes e... hixnis et ha-rosh shelo letox hakli*

'the-dog searched ... inserted [=entered+CAUS] ACC his head into the-vessel' [H-9f]

These examples have been given at length to illustrate certain facts about verbalizing such an event. Firstly, different perspectives can be adopted not only in terms of who did what to whom, but also how the dog, his head, and the jar interrelate with one another. Because of this complexity of the different components involved in a single indivisible event--that is, one which is not composed of several separate incidents--speakers use a variety of different casemarkings: accusative, comitative, and locative. (Note also the Spanish choice between reflexive and non-reflexive verb forms, as discussed with regard to examples 24a/b, above.) Moreover, in a way not typical of the bulk of the stories as told by these same children, there is much self-repair, backtracking, hesitation, and reformulation in the verbalization of the contents of this scene, suggesting a struggle to arrive at and grammatically express an appropriate perspective. (Exactly the same phenomenon is illustrated by the English examples in l8a-c, above.) Finally, there are a few instances of ungrammatical usages--lack of gender agreement or omission of an obligatory resumptive pronoun in a relative clause, etc.--which are not typical of the general language usage and proficiency of these same children. All of this suggests a rich area for investigation of the development of children's abilities to structure coherent and cohesive discourse beyond the level of individual clauses.

CONCLUSIONS

As we suggested at the outset, there are two strands to our analysis, developmental and crosslinguistic. We have found both developmental commonalities across languages, and the emergence of specific linguistic perspectives in each of the languages.

Across languages, 3-year-olds tend to tell stories that are closely anchored to the sequence of pictures presented to them, whereas older narrators come to integrate clauses into larger causal and temporal frameworks. For example, younger narrators do not attend to the role of the deer in causing the fall from the cliff, and describe successive phases of falling and landing in locally-appropriate tense/aspect forms. Older narrators mention more elements per picture episode, often providing information that is not directly depicted (e.g., that the dog could not get his head out of the jar).

Another important age-linked pattern can best be described in terms of **flexibility** or **optionality** in perspective taken on events. For example, younger narrators tend to present events from the point of view of one protagonist, the boy, who is agent of actions, while older narrators can switch perspective--as evidenced, for example, in a development from (1) boy climbs on deer, to (2) boy is taken by deer, to (3) deer takes boy.

In all five languages, our youngest subjects already show command of the tense/aspect inflectional system of their language, and can use both present and past tense and the range of aspects provided by the language (progressive, perfect, imperfective/perfective). They seem able to deal with whatever range of inflectional options is provided by the language--even using the full range of Spanish inflections for progressive, perfect, perfective, and imperfective. On the other hand, they do not seem to search for periphrastic devices to enrich their linguistic options. Thus, for example, Hebrew children seem to be content with the tense oppositions of past and present, without adding aspectual elaborations by other means. Within these boundaries, children quickly come to speak according to the conceptual framework most readily grammaticized in their native language. We have made this point repeatedly, and, in conclusion, present a brief summary sketch of the special characteristics of using each of our five languages to narrate the three picture episodes we have analyzed here.

English

Scenes of change of location are elaborated by the use of directional particles to encode source and goal, along with locative prepositional phrases. Verbs of motion include features of manner. The Progressive is used to describe ongoing events and events of extended duration in time, allowing for a choice of perspective between ongoing and perfected events. A patient perspective is provided by use of the auxiliary *get* in passive or middle voice.

German

The use of directional particles is even more elaborated than in English, along with the conflation of manner in verbs of motion. However, there is no aspectual elaboration of the kind provided by the English Progressive. (Bamberg's 1985 dissertation shows early use of the Perfect to contrast resultant states with ongoing events.) There is virtually no use of passive or middle voice forms to express patient orientation, but there is widespread syntactic elaboration of modal and causal circumstances attendant upon the events of falling and of being caught.

Spanish

Aside from verbs of inherent directionality, there is very little elaboration of source or goal within the clause that encodes change of motion. Rather, scenes are established in a series of separate clauses, allowing the trajectory of motion to be inferred rather than explicitly encoded. There is rich aspectual marking, with Perfects and Participles used to encode end-states, Progressives used to encode ongoing events, and full use of Perfective and Imperfective (as revealed in analyses of other scenes beyond this report).

Turkish

The use of verbs of inherent directionality, along with locative descriptive clauses, is essentially the same as the situation for Spanish, described above. Like English and Spanish, Progressive is used to contrast ongoing from perfected events. And, like English, passive forms are used to encode a patient perspective with regard to getting caught on the antlers--but not getting stuck in the jar.

Hebrew

Hebrew is like Spanish and Turkish with respect to reliance on directional verbs, but shows even greater paucity of locative specification. There is no grammatical aspect and relatively little use of periphrastic devices to mark such distinctions as ongoing versus completed. Perspective is switched mainly along the parameter of transitivity and voice, making use of verb-pattern morphology to express causative, inhoative, and middle-voice.

References

Bamberg, M. G. W. (1985). *Form and function in the construction of narratives: Developmental perspectives*. Unpublished doctoral dissertation, University of California, Berkeley.

Berman, R. A. (1978). Early verbs: How a child uses her first words. *International Journal of Psycholinguistics, 5*, 1-25.

Berman, R. A. (1985). Acquisition of Hebrew. In: *The crosslinguistic study of language acquisition*, Vol. 1, D. I. Slobin (Ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Bloom, L. (1973). *One word at a time*. The Hague: Mouton.

Karmiloff-Smith, A. (1981). The grammatical marking of thematic structure in the development of language production. In: *The child's construction of language*, W. Deutsch (Ed.). London: Academic Press.

Mayer, M. (1969). *Frog, where are you?* New York: Dial Press.

Miller, M. (1979). *The logic of language development in early childhood*. Berlin/Heidelberg/New York: Springer-Verlag. (Translation by R. T. King of *Zur Logik der frühkindlichen Sprachentwicklung*. Stuttgart: Ernst Klett, 1976.)

Talmy, L. (1985). Lexicalization patterns: semantic structure in lexical forms. In: *Language typology and syntactic description*, Vol. III: *Grammatical categories and the lexicon*, T. Shopen (Ed.). Cambridge: Cambridge University Press.

Weist, R. M. (1986). Tense and aspect. In: *Language acquisition: Studies in first language development*, 2nd ed., P. Fletcher & M. Garman (Eds.). Cambridge: Cambridge University Press.