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DEVELOPING FORM/FUNCTION RELATIONS IN NARRATIVE TEXTS

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The paper elaborates on a central theme of the Berman and Slobin (1994) crosslinguistic study of narrative development: children's developing ability to express form/function relations in extended discourse. Here, *form* refers to linguistic devices including bound morphemes, words and other lexical expressions, and syntactic constructions and processes, while *function* refers to the meaning and role of such devices in the course of narrative production. Focus is on three features of this analysis: (1) The claim that initially the relation between linguistic forms and the narrative functions which they perform is restricted in both directions (limited forms for a given function, and limited function for given forms), (2) the idea that linguistic forms may emerge very early in development, but they will have extended developmental histories, and (3) the fact that we at present lack clear *a priori* characterization of which forms will perform what functions in a particular narrative context. These ideas are examined for linguistic forms such as prepositional markers of predicate-nominal relations, the English morpheme *-ing*, the Hebrew connective meaning *and*, and subject elision in English, Hebrew, and Spanish, and for narrative functions such as perspective taking, object description, and reference.

1. BACKGROUND

The question of how children use linguistic forms in constructing narrative texts has been of interest from the dual perspectives of language acquisition and development, on the one hand, and the nature of narrative discourse, on the other, since the pioneering work of Karmiloff-Smith (1979). Functionally oriented studies of children's developing narratives have concerned three main syntactic domains: NPs, VPs, and clause-linkage. Use of nominal structures is related primarily to the textual function of *referentiality*, in the sense of introducing, maintaining and shifting reference to the characters and objects participating in the narrative (relevant studies are succinctly summarized in Hickmann 1995; see, too, Wigglesworth 1992); deployment of predicative structures has focused on the expression of *tempo-*

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ral relations through deployment of systems of Tense/Aspect/Mood (Aksu-Koç and von Stutterheim 1994, Bazzanella and Calleri 1991); while the devices used for clause-linkage in the service of *narrative connectivity* constitute one facet of the more general issue of textual cohesion or cohesivity (Berman 1997a, Peterson and McCabe 1991).

A finding common to these different research orientations provides strong confirmation of Slobin's (1973) important insight, one which followed from the developmental principle regarding "functional shifts" formulated, for example, by Werner and Kaplan (1963) and which formed a central *leitmotif* of the crosslinguistic narrative study of Berman and Slobin (1994): the proposal that "old forms acquire new functions" and that, concurrently, "old functions acquire new forms". The present paper seeks to refine these notions in the context of narrative development, by examining three major claims which have emerged from earlier studies. The first claim is that, initially, the relation between linguistic forms and the narrative functions which they perform is quite severely restricted, yielding a largely one-to-one mapping between form and function in *both* directions, so that a given linguistic form will perform only one or a few restricted functions, and a given function will be expressed by a restricted range of forms. Second, one outcome of this interaction across time is that linguistic forms may *emerge* very early indeed (as proposed within nativistically motivated, Chomskyan studies of language acquisition), but they have relatively lengthy developmental histories from the point of view of language *use*, so that it may take till puberty or beyond before a full range of forms can be flexibly deployed for a given narrative function. Third, given the present state of both linguistic and narrative analysis or, rather, the state of narrative research which takes as its point of departure a form/function approach, it is not a priori clear what forms can or will perform which functions in a given narrative context.

This undertaking thus faces two major difficulties in principle. First, the discipline of linguistics provides us with a good sense of what might fall under the heading of *linguistic forms,* even though the way these are defined will depend on the particular formal model or descriptive framework which is espoused by different researchers. Thus, as characterized across the work of Berman and Slobin (1994), linguistic forms or the devices available to speakers-writers for expressing different narrative functions include all of the following: inflectional and other types of bound morphemes and closed-class grammatical items like pronouns and prepositions; lexical items which include the major form classes of nouns, verbs, adjectives and adverbials as well as multiplexemic set expressions; syntactic constructions such as relative clauses or passives; and syntactic operations such as word order alternations and argument ellipsis. But it is not nearly so clear how to characterize what we term *narrative functions.* Some of these functions, as noted in Dasinger and Toupin's (1994) analysis of relative clause usage, are shared by all or at least a variety of text types, while others are specific to narrative texts. For example, the same set of *temporality relations*—simultaneity, anteriority, and sequentiality— apply across text types, but their role and status will differ in narratives, where sequential events

constitute the default foreground material (Hatav 1985, Reinhart 1984) compared with, say, descriptive texts (von Stutterheim and Klein 1989). And while the function of *evaluation* was first defined specifically for narratives (Labov 1972, Labov and Waletzky 1967), it can be shown to play a role in, for example, informative texts, though in a rather different way (Giora 1990). Other "functions" which apply to different types of texts, including but not only narratives, are: connectivity or clause-linkage, perspective, and reference or object-specification. These, too, are open to a wide range of characterizations, and are by no means clearly defined within a well-established descriptive, let alone theoretical, framework.

The second difficulty faced by attempts to define form/function relations in narrative (or other) texts is in itself a partial explanation for the lack of agreement concerning the nature of narrative functions. There is no single canonical or even preferred way for expressing a given function, since a variety of linguistic forms can meet a particular function. For example, reference can be maintained across texts by means of personal and indefinite pronouns, by argument ellipsis, by proper and common nouns, as well as by complex noun phrases with adjectives, prepositional phrases and/or relative clauses (Berman and Katzenberger, in press; Karmiloff-Smith 1981). Thus, each language makes available to narrators a range of rhetorical options for expressing a given narrative or textual function. In the case of grammar, speakers will generally agree on whether a given utterance is well-formed or not, whether it obeys the obligatory constraints of the grammatical structure of a given language. But in an extended discourse like narrative, there is no one single correct way of constructing a text on a given topic (and this is true, too, at the level of isolated clauses within a text, as shown in examples (1) and (2) below). Choice of particular options is partially dictated by the nature of different text-types or genres. It is also affected by cultural conventions, by personal preferences, and/or by developmental factors relating to level of literacy and maturation, the consideration which is at issue in the present context. A central aim of the present study is to examine how choice of rhetorical options in the production of narrative texts interacts with developmental factors, that is, with age-related increasing command of narrative structure and of language use.

The data used for the following discussion derive from the set of "frogstory" picturebook-based narratives analyzed for five languages in the Berman and Slobin (1994) crosslinguistic study, combined with a similar corpus for French (Kern 1997), and a range of Hebrew-language texts elicited by a variety of procedures —personal-experience accounts, picture-series, and film-based (as detailed in Berman 1995).

2. The development of "narrative rhetoric"

The term "narrative rhetoric" as used here refers to the particular expressive options, i.e., the range of linguistic devices, which speakers (or writers) select in constructing a narrative text. These devices combine to create the narrative texture of any given text, as discussed below.

2.1 *Individual variations*

The optionality of the collection of devices which constitute the narrative rhetoric of a text raises a critical problem of *variability*, one facet of which depends on *individual style* or the preferences of a particular narrator on a given occasion. For example, adult speakers of different languages selected to anchor their narrations of the pictured storybook *Frog, where are you?* in either past or present tense (except for the German narrators, who favored present tense almost exclusively across age-groups). Choice of a *dominant tense* (over 75% of all verb-forms in the text) has a powerful impact on the temporal fabric of the entire narrative, which can be described as either ongoing, following the line depicted in the pictures at the time of telling, or as having occurred fictively prior to the time of telling. The selection of either present or past tense specifies which aspectual forms can be deployed in different languages, and on a more global level, it may determine the nature of tense/aspect shifting to meet the function of foreground/background distinctions. A second example is provided by analysis of "frogstory" texts produced by a large group of adult speakers of Hebrew (Berman 1988, 1996). Several distinct profiles emerged for how narrators selected to express the textual function of *connectivity* by choice of specific devices for clause-linkage. Some preferred Biblical style paratactic structures, by means of clause juxtapositioning without any overt marking and/or by syntactic coordination with *and*; others constructed largely hypotactic chunks of texts through use of syntactic embedding, with or without associated subject ellipsis; while a third group relied heavily on subject (i.e., topic) ellipsis combined with coordination and juxtapositioning of clauses. In principle, none of these three options is more well-formed, more expressive, or better than another. Once speakers have become proficient narrators —i.e., they have achieved cognitive command of narrative structure, cultural command of narrative conventions, and linguistic command of a full range of expressive devices— they are free to choose their rhetorical options as befits their individual propensities and abilities within a given discourse context.

In developmental terms, the factor of individual variability seems to manifest a U-shaped curve (Berman 1995, Reilly 1992). The narratives of young preschool children vary considerably in length, content, and structure as well as in overall rhetorical style, as do those of proficient older narrators who may tell short, concise, highly encapsulated stories, or else may produce lengthy, highly elaborated and detailed texts in narrating the "same" set of events (see Section 2.2 below). In contrast, older preschool-age children, and particularly children of early and middle school-age, tend to manifest less inter-group variability along these different dimensions. As in U-shaped learning curves in general (Strauss 1982), lack of knowledge of the younger children, in this case their as yet undeveloped narrative abilities and their nonmastery of narrative structure, means that they will produce texts governed by personal associations or (as in the "frogstory" task) by how they personally interpret the content of the pictures in the booklet. School-age children, in contrast,

have good command of narrative structure but either have not yet established their own rhetorical preferences or else do not feel free enough to give full expression to their own individual style in performing narrative production tasks such as the one at issue here. Fully mature narrators, as noted, are able to select the "storytelling performance" which seems to them most appropriate to themselves and to the situation.

2.2 *Translation of "reality"*

A second factor underlying variability in production of narrative texts is the fact that there is no one way to represent the same external situation, whether in the real or fictive world. For example, the frogstory picture-booklet depicts a scene in which a dog is shown running away from a swarm of bees. This same event can be perceptually and cognitively construed, and so verbalized, from different perspectives, and in different ways, as illustrated in (1) for English-speaking narrators of different ages, indicated in square brackets (Berman and Slobin 1994: 516-538).

(1) Different expressions of a "chase" scene:

The bees are chasing the dog. [3;9, 4;11]
The dog is being chased by the bees. [Adult-j]
The bees go after the dog. [5;11]
The bees are coming after the dog. [9;11]
The dog's running away because the honeybees were trying to get it. [4;7]
And then the boy's running away cause the bees were all chasing him. [9;7]
The dog runs away as bees follow him. [Adult-h]
All the bees start chasing the dog, who runs away. [Adult-a]

A similar variety of perspectives, and hence formulations, is revealed by the way in which Hebrew-speaking narrators describe another scene earlier on in the same booklet, also involving the dog, who, on looking inside the empty jar from which the frog has escaped, gets his neck stuck inside (Berman 1993). Note that in keeping with the verb-framed typology of Hebrew, motion verbs like *enter* = *go in, insert* = *put in* are translated by monolexemic forms, as quite everyday vocabulary (like their Spanish equivalents *entrar, meter*).

(2) Different expressions of a "getting stuck" scene:

The head of the dog was inside the jar. [3;7, 7;8]
The dog went = walked into the jar of the frog. [4;2]
The dog wore = put on the jar of the frog. [5;9]
The dog put the jar on its head. [4;5, 7;4]
And the dog entered into the jar. [3;0, 4;3, Adult-c]
The dog entered the jar with its head. [7;1, 7;7]
The dog took the jar and put it on its head. [3;5, 5;1, Adult-a]
The dog inserts its head into the jar. [3;5, 4;11, 7;8]
The dog inserted its head in the jar where the frog was and got-stuck. [9;1]

The dog, its head got-stuck inside the jar. [5;10, 9;4]
The dog, by mistake the jar got-stuck to-him on his-head. [9;5, Adult-m].

In developmental terms, older narrators increasingly treat the boy protagonist as not only actor-agent, but also as the patient-undergoer of these events, where he is presented as being chased, getting stuck, and so on. But these examples have crosslinguistic, typological implications, too. Thus, Slobin (1990, 1991, 1996) has suggested that from an early age, children become attuned to "thinking for speaking" in the terms laid down for them by their native language. In English, for example, a nonagentive, patient perspective will typically be expressed initially by *get* passives, subsequently by syntactic passive constructions with *be,* whereas Hebrew-speaking children will early on deploy verb-pattern morphology to distinguish causative (and hence volitionally agentive) *maxnis 'insert* = make-go-in' from the intransitive verb with the same root *nixnas* '*enter* = go-in, get-in', or they will use unaccusative verb-morphology to describe events from a patient perspective of getting-stuck or getting caught = *nitka, nitpas* respectively. What this again shows is that, in learning how to "relate events in narrative", children have to acquire command both of the full range of linguistic forms available in the target language and of the appropriate type of "narrative rhetoric" for expressing different kinds of narrative functions —in the case in point here, alternation of verb-argument relations for the expression of different perspectives on events.

2.3 *Same form / New functions*

A difficulty faced by researchers in trying to characterize linguistic form / narrative function relations, and one which is a learning problem for children, too, is the fact that, as noted, this interrelation represents a many-to-one and a one-to-many mapping in both directions: many forms can serve a single function, and a single form can perform more than one function. Earlier studies have shown that a single linguistic form will tend to express increasingly complex functions with age, and that this rangeof functions applies concurrently to syntactic context and to semantic content. Below, I review some of these findings for four sets of linguistic forms: prepositional markers of verb-argument relations (Section 2.3.1), the English verbal suffix *-ing* (2.3.2), the coordinator *and* (2.3.3), and subject ellipsis (2.3.4).

2.3.1 Prepositional markers of predicate/nominal relations

This finding is demonstrated in (3) for use development in the use of the English prepositions *in, on,* and *after.*

(3) Developmental phases in use of prepositions:

1. Spatial [with Concrete Noun]:	*in the jar, on the floor, run after the dog*
2. Temporal [with Time/Event Noun]:	*in the morning, on weekdays, after lunch*

3. Temporal/ Causal [with Gerundive]: *in doing so, on meeting us, after telling them*
4. Manner/Cause [with Abstract Noun]: *in anger, on his departure, after the discussion*

The narrative texts examined in this and other studies show three interrelated developments in use of prepositional markers of verb-argument and verb-adjunct relations. First, with age, children use a wider variety of prepositions across their texts to express locative and other relations between predicates and their associated noun phrases, in keeping with the general developmental trend for deploying semantically more specific lexical items across time (compare, for example, *in, inside, into, within*). Second, they assign a wider and more abstract range of meanings to polysemous expressions such as the prepositions illustrated in (3), i.e., a given form acquires a range of functions, where "form" refers to lexical expression and "function" refers to semantic content. Third, and relatedly, the same lexical items come to be used in a wider range of syntactic contexts, including in the English case in (3), verbal nouns or gerunds, on the one hand, and abstract derived nominals, on the other. Use of such constructions plays an important role in meeting the two apparently distinct narrative functions of connectivity (through nonfinite subordination with gerundive nouns) and evaluation, through complex adverbials of manner (*in anger, with care*) or temporality (*on his departure = after he departed, after the discussion = after they had talked about it*). And they serve the stylistic purpose of rendering the narrative text in a higher-register, more literate form of expression.

2.3.2 Participial and gerundive *-ing* in English:

Uses of the suffix *-ing*, amongst the earliest bound morphemes acquired by English-speaking children, change markedly with age in the "frogstory" samples, as illustrated in (4) (see, further, Berman and Slobin (1994: 4-6, 137-142).

(4) Changing form/ function relations of the English suffixal "-ing":

1. "Bare" main verb:
   And that he - <u>floating</u> off, uh - <u>sitting</u> down [3;3]
   And here, he <u>trying</u> to get the bees [3;11]
2. Complement of verbs of perception or aspectual verbs:
   I see him <u>snoring</u> [4;9]
   He kept on <u>calling</u> frog [5;10]
3. Noun modification - truncated relative clauses:
   The dog was shaking the tree with the beehive <u>hanging</u> from it [9;10]
   The dog is curious about some bees <u>flying</u> overhead [Adult-c]
4. Sentence modification - nonfinite adverbial clauses:
   The deer carried him to the edge of a cliff, with his dog <u>chasing</u> after [9;1]
   The three were just sitting around <u>doing</u> nothing [Adult-d].

Again, as with the prepositions in (3), development takes place concurrently in syntactic context, in semantic content, and in narrative function. Early use of "bare" *-ing* forms without the required tense marking on auxiliary *be* yield ungrammatical usages, and reflect the young preschoolers' tendency to view (present) progressive as the unmarked, basic form of picture-based storytelling. Subsequently, these tenseless forms are used grammatically in constructing syntactically extended predicates with aspectual or perceptual modifications, an early type of complement structure. Only later are they used for nonfinite clause-linkage to create a particularly tight and cohesive type of "syntactic packaging" in the service of narrative connectivity. This is particularly marked at the most advanced phase, where nonfinite adverbial clauses provide background information to the events focused on in the tensed subordinate clause which precedes them (compare the wording in 4-4 with the alternative *"The deer carried him to the edge of the cliff, and/while/as his dog chased after"*).

2.3.3 The coordinating conjunction *and:*

Another set of forms which serve different and more varied functions with age are the basic morpheme used for expressing coordination, as examined for English by Peterson and McCabe (1988), for French by Jisa (1987), and for Hebrew conversational and narrative discourse by the present author (Berman 1996). The following phases can be identified as characterizing how children's use of this marker develops from early to more mature usage.

(5) Phases in emerging use of the Hebrew coordinating conjunction *ve:*

Phase	Position / Function	Intention Signalled
I	Utterance-initial	*I have more to say*
	"announcing"	*—in the same conversational turn*
II	Clause-initial	*Something else / more happened*
	"chaining"	*—in chronological sequence*
III	Text-embedded	*Events or states are related*
	"chunking"	*—within a discourse theme*

In this summary breakdown, use of this particular linguistic form progresses from the behavioral unit of utterance to the syntactic unit of clause, and thence to the discourse unit of text or text-segment. This, in turn, reveals a shift from an initial associative, communicatively-motivated declaration that the speaker is still engaged in talk, to a temporally-based chaining of clauses in sequence, and on to mature syntactic packaging. Interestingly enough, use of the marker *and* in monologic narrative texts also reveals a U-shaped development. It is relatively rare as a syntactic connector between temporally related texts (Phase II) in narratives produced by 3- and 4-year-olds; subsequently, it tends to be overused, serving as the marker *par excellence* of clause chaining — alone or together with a more specific sequential term like *and then, and after that*; eventually, in the texts produced by more mature narrators, *and* again appears

only sparingly, since it is considered generally *de trop* for marking sequentiality, which older speakers recognize as the default case for narrative temporality and which can thus be left unmarked.

2.3.4 Subject/Topic ellipsis

The last set of forms briefly noted here concerns the use of null subjects in Hebrew narrative texts (Berman 1990). Hebrew is a partially "pro-drop" language in the following sense: like Spanish or Italian, it allows null subjects in isolated clauses with verbs inflected for person, but this applies only in past and future tense (not present), and only in first and second person (not third); like English, Hebrew allows but does not require null subjects in coordinated clauses, whereas this is obligatory in Spanish and Italian; and in tensed subordinated clauses, Hebrew also allows but does not require same-subject ellipsis —disallowed in English and required by the grammar of Spanish and Italian. In developmental terms, once Hebrew-speaking children acquire the full set of verb inflections and constraints on null subjects at the single-clause level, three further phases are observable in extended narrative texts. Three- and four-year-old children tend to avoid subject ellipsis, revealing overuse of repeated subject pronouns (e.g., *This dog* he *also climbs* [3;10], *And the boy* he *went up a tree* [4;9]). At the next phase, 5- to 9-year-olds increasingly use subject elision for grammatical clause-linkage in coordination and, less often, in subordinate clauses with same-subjects (e.g., *And in the morning he got up* and 0 was + MASC *very concerned,* because 0 *saw* + MASC *that it (had) disappeared* [9;4]). Only more mature narrators (in our sample, some 9- to 12-year-olds and many adults) use subject elision across entire chunks of texts, as shown in English translation in (6) below from a Hebrew adult's "frogstory" narration.

(6) Subject = Topic Elision [translated from the Hebrew original]:

> *The boy and the dog awoke* + PL. *What did* they see + PL? *No frog! The frog (had) disappeared.* 0 began + PL *to search in the room.* 0 picked-up + PL *the bed;* 0 picked-up + PL *the lamp,* 0 moved + PL *the window,* 0 searched + PL *under the shoes, inside the socks, not* 0 found + PL *a thing.* 0 opened + PL *the window,* 0 shouted + PL *outside.* The dog barked ...

This example clearly shows, even in translation, the tightly cohesive web of connectivity and parallelism combined by nonoccurrence of any subject pronoun as long as the topic is maintained, combined with the parallel morphological marking of plural number (in the form of an invariant suffixal vowel *-u*). Thus, Hebrew null subjects serve as an optional narrative device for topic maintenance, in marked contrast to languages like Japanese or Turkish, where topic-elision is required across texts. As such, only more mature speakers will avail themselves of this expressive option in a language like Hebrew; and see, further, Section 3 below on typological implications of form/function mappings in narrative and other discourse.

2.4 *Same function/Different forms*

As noted in the introduction, it is less obvious and hence harder to characterize how a given function can be met by different forms. What is implied by this complexity of form/function relations in what I am terming "narrative rhetoric"? First, it is hard to define a priori which forms will be recruited to meet which functions, and neither linguistics nor discourse analysis have helped us much in this endeavor[1]. Consider, for example, the expressions in (7), taken from the "frogstory" corpus:

(7) Descriptions of a given object in the frogstory sample:

1. *a jar, the jar, a glass jar, a round jar*
2. *its jar, the frog's jar, the jar of the frog*
3. *the frog's home, the jar where the frog lived, the jar where the frog was (kept)*
4. *the now-empty jar, the jar where the frog used to be, the jar the frog (had)escaped from*

In (7-1), the jar is referred to merely as an object; in (7-2), an explicit connection is expressed between the jar and the frog, as a major character in the story (since it is the frog's escape from the jar which leads to the entire series of events that makes up this story —the little boy's search for his lost pet frog). The expressions in (7-2) show three different forms of expressing a single function —the grammatical construction of genitive case, and the semantic relation of possession. Moreover, the examples in (7-2) to (7-4) express a cline of increasing levels of narrativity, ranging from the semantic relation of possession to the discourse function of restrictive attribution, or the narrative temporality function of retrospection —since in (7-4) there is a flashback to the time at the beginning of the story, when the jar had not been empty but had been occupied by the frog to the time later in the story, when the frog has left the jar. These examples demonstrate the rich repertoire of superficially unrelated linguistic forms from which speakers can choose to express a given array of syntactic, semantic, and narrative functions.

They also point to the impact of typology and the range of structural options or rhetorical preferences available to speakers-narrators in different target languages (Berman 1997a). Thus, the formulations selected from those illustrated in (7) will also depend on whether a language marks pluperfect aspect for expressing prior-to-past versus past events, as do Spanish and British

[1]In this connection, progress is being made in recent functionally oriented linguistic analyses, though many of these have focused on conversational rather than monological (narrative) texts. See, for example, work by such scholars as Ashby and Bentivoglio (1993), Bentivoglio (1992) in Italian and Spanish; Blanche-Benveniste (1994), Cadiot (1992), Lambrecht (1987) in French; Fox (1995), Fox and Thompson (1993), Ochs (1979) in English; and crosslinguistic research in Biber (1989), Downing and Noonan (1994), Haiman and Thompson (1988), Hopper (1979), Myhill (1992).

English but not Hebrew or General American English, or whether it prefers the use of impersonals to passive constructions, as in Hebrew or German compared with English.

Apart from the temporal domain of retrospection illustrated in (7), several other areas of narrative development have been examined, which manifest a wide range of different forms and even different linguistic subsystems serving a single discourse-general or narrative-specific function. These include: (1) the emergence of different markers for performing the narrative functions of *reference* to participants in the discourse (Berman and Katzenberger, in press; Hickmann 1995, Kail and Sanchez y Lopez 1997); (2) crosslinguistic comparisons in the development of markings of the temporal relation of *simultaneity* (Aksu-Koç and von Stutterheim 1994); (3) the role of "syntactic packaging" in developing narrative connectivity in different languages (Berman 1997a; Berman and Slobin 1994); and (4) the use of linguistic devices for expressing different kinds of narrative *evaluation* (Bamberg and Damrad-Frye 1991, Berman 1997b, Reilly 1992). Across these very different topics, and from a variety of perspectives, research has revealed that children follow a nonlinear and complex path *en route* to mature deployment of a wide and varied, fully appropriate range of the expressive options available in their native language for the purpose of fulfilling particular narrative functions.

3. Conclusions

The *developmental implications* of this study underline a central theme of the work of Dan Slobin and our colleagues on the development of narrative form/function relations, as well as in the analyses of Maya Hickmann and her associates (Hickmann 1995) in regard to the expression of reference. What we find time and again is that linguistic forms have a long developmental history: many linguistic forms are early to *emerge,* but the ability to deploy a full range of rhetorical options, and to integrate them appropriately to meet a range of narrative functions, follows an extended developmental course, and may last through to adulthood.

Relatedly, in linking language structure to language use, the *forms* occurring in children's narratives are legitimate from very early on, e.g., English use of present progressive in picture-story description (*Here the dog is running away from the bees*), use of *and* to add new comments to a given topic of discourse (e.g., in conversational prompts like *And then what? And what did you say?*). Ungrammaticalities like single-clause use of *-ing* forms without a tense-marked auxiliary, or introduction of a nongiven referent with a definite noun phrase are infrequent and shortlived. The patterns noted here reflect, rather, a nonlinear type of developmental continuity. What changes across development is not so much the forms *per se,* but the variety of functions which each comes to meet and vice versa. Along with this increment in the form of one-to-many and many-to-one mappings, there is a reorganization of each linguistic subsystem, incurring a change in the overall representation and use of forms like participles, prepositions, and conjunctions as they come to interact with other

forms that meet similar functions (for example, participles interact with finite forms in tensed subordinate clauses including complements, adverbials, and relatives, on the one hand, and with nonfinite infinitival, gerundive and nominalized constructions, on the other). And there is a concurrent reorganization of each narrative function, so that, for example, temporal relations can be expressed by the interaction between finite and nonfinite forms, between inflectionally marked grammatical aspect and extended aspect by use of verbs like *start, keep on,* as well as by use of a wider, semantically more specific range of prepositions and conjunctions (e.g., not only *when,* but also *during, while, as, in the course of*).

A further point cogently argued in Slobin's studies and hinted at here, too, is that the form/function interface has *typological* underpinnings. For example, in a language like Spanish, which requires subject-elision across same-subject clauses (Section 2.3.4), null subjects will not fulfil the same textual functions as in a language like English, where they are far more grammatically constrained, or Hebrew, where they are optional rather than obligatory. Thus, in English, subject elision as a device for narrative connectivity will show up with nonfinite participial or gerundive constructions (as in examples (3-3) and (3-4) above); in Hebrew, subject elision may occur in tensed clauses (juxtaposed, coordinated, and/or subordinated) across large stretches of text as a favored rhetorical device for syntactic packaging and topic maintenance; in Spanish, two types of nonfinite packaging are favored for the same function (Berman 1997a, Sebastián and Slobin 1994). Consider the following gerundive and infinitival constructions from the Spanish "frogstory" sample, the a) examples from 9-year-olds, the b) from adults.

(8) Nonfinite constructions in Spanish frogstory texts:

a) *entonces luego van por el bosque llamando a la rana*
'then afterwards (they) go through the wood *calling* to the frog'

y se llevó a Pepito encima de su cabeza corriendo corriendo hacia un precipicio
'and picked-up to Pepito onto his head *running running* towards an abyss'

b) *y el perro al buscarlo - se metió en la botella*
'and the dog *on to-seek-it,* put himself inside the bottle'

y al salir a la ventana siguiendo a Juan, pues se cae y al caerse rompe el recipiente
'and *on to-exit* from the window *following* Juan, well he falls and *on to-fall* breaks the vase'

In Spanish, as in English, subject ellipsis is a favored device for narrative connectivity in nonfinite contexts rather than in tensed subordinates as in Hebrew. In Spanish, this is because subject ellipsis is grammatically required across same-subject clauses in both finite and nonfinite contexts; in English, it is for a different reason, because subject ellipsis is grammatically disallowed in

finite contexts, and obligatory in nonfinite constructions. Typologically, Hebrew lies between these two extremes, since subject ellipsis is optional in finite subordination, rendering it a more mature device for topic maintenance in narrative texts. Moreover, the nonfinite gerundive option available to Hebrew speakers also differs from what one finds in either English or Spanish: in register, it is typical of journalistic or literary writing, unsuited to oral narratives of the type analysed here; grammatically, it requires an overt subject marker. That is, typological factors (where a given linguistic device is grammatically required or available as a rhetorical option) interact with factors of *usage* (e.g., what registers and levels of style are involved). These have a combined impact on form/function mappings in discourse.

In mastering this complex web of language structure and use, children face the problem of *choice*, of learning how to tap into the full repertoire of expressive options available to them in their mother tongue at a given time in ways which are appropriate to both discourse context and narrative function. This is not simply a question of the *conceptual complexity* of the relevant notions, such as possession, causality, or temporal sequence. The conceptual underpinnings necessary to talk about such notions emerge quite early in development, as do other types of cognitive representations relevant to narrative discourse —like knowledge of scripts and the ability to recall past events. For example, in order to meet the textual function of making reference to the characters in the story, young children can conceptually distinguish between people and animals, between children and adults, between men and women; and linguistically, 4-year-olds have an excellent command of many of the relevant devices, and 5- and 6-year-olds know them all: naming and labeling by proper or common nouns, describing by adjectives, prepositional phrases, or relative clauses, as well as use of pronouns, null subjects, and determiners. However, young children are as yet incapable of coping with *the cognitive load* involved in concurrent execution of different tasks. In the case of reference, they need to organize a text globally around the main protagonist(s), *and* they must at the same time recruit the appropriate linguistic devices for expressing this organization in terms that are conventionally appropriate and unambiguously interpretable. In order to construct a coherent account of a personal experience such as a fight with someone at school, the narrator needs to integrate information about the background setting, the motivational circumstances, and the temporal and causal sequence of events within a global action-structure, and at the same time express these various elements in linguistically appropriate terms, so as to provide enough but not too much information for the listener, information which must be explicit but not redundant.

This interpretation of the task faced by children in recruiting linguistic forms for narrative text-construction is in line with the claims of Shatz (1984) in the domain of storytelling and of Pascual-Leone (1987) in other cognitive domains regarding the difficulty imposed by cognitive overload on young children's online processing. The relatively late emergence of appropriately explicit and unambiguous means of making reference to different characters in a narrative text is both revealing of and explained by the complexity of this

task in the integration of linguistic form with narrative function. This complexity is demonstrated, for example, by the unambiguous, yet still not fully felicitous forms of reference adopted by children as late as age 10 years in referring to the characters in a picture-series story (Berman and Katzenberger, in press). This complexity could also account for the apparently contradictory findings in the literature on developmental studies on reference (Hickmann 1995, Kail and Sanchez y Lopez 1997). Some facets of narrative ability emerge quite early in some circumstances; but the full expression of such knowledge in different elicitation settings and in relation to different types of scripts manifests a long developmental history.

To conclude, the past decade or so of research on children's narrative abilities has taught us much about patterns of form/function relations in a developmental and crosslinguistic perspective. At this point, an important challenge remains for researchers in developmental psycholinguistics who seek to take seriously the challenge of examining how children with time gain command of the complex web of interrelations between linguistic forms and narrative functions. What we need to do is try to specify the relative weight of each of the factors touched on here (conceptual knowledge; mastery of linguistic forms and rhetorical options; command of narrative discourse structure; appropriate application of register distinctions and evolution of individual style; and cognitive development in online processing in the course of text production). This should then make it possible to specify more precisely how these different factors interact across time, on the one hand, and in different elicitation tasks and discourse settings, on the other.

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