11

Clause Packaging in Narratives:
A Crosslinguistic Developmental Study

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My main difficulty in following the editors' guidelines was how to write a "short" paragraph about Dan's impact on my life and work.[1] Here goes my feeble attempt to apply one of the countless lessons I learned from Dan: When thinking for speaking (or writing), be "clear, processible, quick and easy, and expressive" (Slobin, 1977, p. 186). Since Dan urged me to look into acquisition of Hebrew when we first met at a coffee-shop in Berkeley in the 1970s, we have shared many good meals and much talk in Berkeley, Nijmegen, and Beth-Herut, along with workshops in crosslinguistic acquisition (1980), temporality (1981, 1986), and narrative development (1995). Both within and beyond these contexts, although I am the older, Dan was and is the wiser. I am indebted to him for having inspired my thinking and guided my research on form–function relations in language acquisition, development, and use. In the language shared by our parents' generation, my *broxe* 'blessing' to him in this well-deserved tribute from our community is *zol er zayn gezunt un shtark nokh lange yorn*![2]

INTRODUCTION

This chapter follows from Berman and Slobin (1994) and is inspired by Slobin's ideas in the years before, during, and since the first "frog story" volume appeared. In *crosslinguistic perspective*, we aim to shed light on Slobin's question of "whether typological contrasts in rhetorical style found in frog stories are restricted to this limited genre of picture-elicited narratives intended for children" (2004a, p. 117). Slobin has addressed this issue in both depth and breadth, moving from children's oral narratives to the rhetorical style of novels, newspaper reports, and conversations (1996, 2000) and the "discourse effects of linguistic typology" in novels in different languages and in multilingual translations (2003a, 2004b). The present study is motivated by similar goals, but is restricted to three of the five languages in the original frog-book study—English, Hebrew, and Spanish—a slice of the many languages that Slobin has mastered and investigated.

In *developmental* terms, the chapter departs from Berman and Slobin's use of 9-year-olds as the oldest school-age participants. By taking middle childhood as the starting-point for our study, we focus on "later language development" (Berman, 2006), when the impact of "typological bootstrapping"

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[1] This first paragraph is the first author's personal homage to Dan.
[2] He should be healthy and strong for many more years to come!

(Slobin, 2001, p. 441) is already well in place. We found that children as young as 9 years of age may use all the forms we identified as playing a role in text-embedded syntax, the topic of this chapter. However, only the texts produced by high-school adolescents fully reflect the rhetorical options favored by literate adults in their speech community. This underscores another of Slobin's important insights: Linguistic forms may emerge in early childhood, but full realization of their rhetorical functions has a long developmental history.

In *genre,* this chapter deals with personal-experience narratives, rather than the fictive children's adventure story of the frog story. Its theme is not a search, but interpersonal conflict, recounting an incident in which the narrator had been involved in "problems between people." The texts examined here are written rather than oral, so that our concern is with "thinking for writing" (Slobin, 2003b).

In *topic,* our study departs from Slobin's research on contrastive rhetoric in narrative, which has focused on motion events (2003b) or "how people move" (2003a). Rather, we extend earlier analyses of "syntactic packaging" (Berman & Slobin, 1994) or "connectivity" (Berman, 1998) so as to examine inter-clausal *syntactic architecture.* This derives directly from the idea of *packaging* as "a kind of visual metaphor for the various ways in which situations can be analyzed into components and encoded in multi-clausal constructions" (Berman & Slobin, 1994, p. 538). Unlike purely structuralist analyses, this means that narrative clause-linkage is viewed as having *rhetorical effects* such as subordinating event components to a high point, conflating different phases of an event into a single event complex, and providing speaker-writers with control over the rhythm and tempo of the narratives that they construct.

CLAUSE PACKAGING

Our analysis of "contrastive rhetoric" focuses on the expressive options that narrators select for "relating events in narrative" by packaging them together in the texts they construct. To this end, we adopt the notion of "Clause Package" (CP) as an independently motivated device for analyzing units of text beyond the level of the single clause in both narrative and non-narrative discourse, spoken and written.[3] A CP is a text-embedded unit of two or more clauses connected by abstract linkage relations that are typically but not necessarily identified by syntactic criteria. Thus, within each CP, relations of clause-linkage are often explicitly marked by coordinating or subordinating conjunctions, but they may sometimes be inferred from the thematic progression of a text. As such, clause packaging departs from most linguistic analyses of "nexus" (Foley & Van Valin, 1984), "clause-combining" (Haiman & Thompson, 1988), or "clause complexes" (Matthiessen, 2002). Clause Packages also differ from traditional, pedagogically motivated notions such as a "T(erminable) Unit" (Hunt, 1965; Verhoeven & van Hell, in press), since they take account of how such units function in the text as a whole.[4] For example, we distinguish cases where lexical connectives like *and, so, but* function as grammatical markers of connectivity or as pragmatically motivated "utterance-introducers" (Berman, 1996) or as "segment-tagging" discourse markers (Ravid & Berman, 2006). Moreover, to delimit CP boundaries, we also take account of discourse-topic shift or maintenance—whether the speaker-writer is referring to a different aspect of the same topic or to a distinct topic.

Application of these criteria is illustrated in (1), from the narrative written by a Californian graduate school student.

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[3] The idea of a "clause package" emerged in the framework of a crosslinguistic study in which the first author was principal investigator (PI) (Berman & Verhoeven, 2002; Katzenberger, 2004) and has been refined in studies by the second author (Nir-Sagiv, 2004; 2005).

[4] Although ostensibly conducted in the same framework as the present study, hence adopting the term "clause packaging," the analysis of Verhoeven and van Hell in fact considers only T-units.

(1) Excerpt from English Adult Narrative[5]

    CP1:

  1 *I experienced a brief conflict with a friend*

  2 *while in graduate school.*

    CP2:

  3 *My friend and I discussed an incident*

  4 *in which a fellow student was asked*

  5 *to leave the program*

  6 *because he had inappropriately obtained information for the upcoming qualification examination.*

    CP3:

  7 *My friend's perspective was*

  8 *that the individual was being treated too harshly.*

  9 *It was his view*

 10 *that a more thorough investigation plus a more lenient judgment may have been better.*

Clause Packages as so defined and illustrated provide the framework for our analysis of narratives produced by native speakers of three different languages.

DATA SOURCES AND ANALYSIS

Our data-base is taken from a large-scale crosslinguistic project on developing text construction abilities, in which schoolchildren, adolescents, and adults were asked to tell and write a story about an incident where they had been involved in interpersonal conflict and to give a talk and write an essay discussing the topic of "problems between people" (for details, see Berman & Verhoeven, 2002; Berman, 2005).[6] Below we consider 240 texts written in Californian English, Iberian Spanish, and Israeli Hebrew, 20 at each of four age groups: 9- to 10-year-old 4th graders (henceforth **G** for grade school), 12- to 13-year-old 7th graders (**J**unior-high), 16- to 17-year-old 11th-graders (Highschool), and graduate school university students (**A**dults).

We defined five types of clause-linkage as representing different *functional configurations* of clause combining in discourse. The classification reflects our view of clause-linkage development as progressing from "flat" stringing of clauses via layering to nesting, rather than as a straightforward shift from linear to hierarchical.[7] And it involves a notion of "syntactic architecture" beyond syntax in the traditional sense, with content and structure treated together as indivisible facets of clause combining. By "architecture" we understand "formation or construction, whether the result of conscious act … or of a random disposition of the parts" (*Webster's Third New International Dictionary*), a definition that conjures up notions of building, of scaffolding, of design, and of esthetic (here, rhetorical) principles. The classification in (2) uses the familiar notions of *parataxis* and *hypotaxis* along with the less conventional terms, *isotaxis* and *endotaxis*, as (re-)defined for present purposes. And in deference to Slobin, we use spatial metaphors to lend transparency to these labels.

(2) Five Types of Syntactic Architecture

    I   **Isotaxis** = 'equal organization': **isolating** (autonomous clauses)

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[5] Sample texts are divided into clauses, and standardized for spelling and punctuation.

[6] Collection of the English-language sample was supervised by Judy S. Reilly of San Diego State University, and in Spanish by Liliana Tolchinsky, University of Barcelona, with help from Melina Aparici. All participants in the study were monolingual native speakers.

[7] These categories disregard clause-internal structure and content. A text might manifest complex clause packaging and yet be "flat" in phrase structure.

    II   **Symmetric Parataxis =** 'side by side organization': **stringing** of clauses

   III   **Asymmetric Parataxis** = 'partial equivalence': **dependent stringing**

   IV   **Hypotaxis =** 'one under the other': **layering** of clauses

   V   **Endotaxis = '**one inside the other': **nesting** of clauses

Each CP was analyzed as a construction with a Main Clause (MC) as its "head," thus:

- **Level I: Isotaxis [ISO] —** (a) a Single clause with no internal architecture—a *bare CP,* and (b) the head Main Clause (MC) of any CP, isotactic with respect to the MCs of its neighboring CPs.
- **Level II: Symmetric Parataxis [PAR] —** Juxtaposed or Coordinated clauses with overt subject-marking, related by *symmetric stringing* either to the MC or to one or more other juxtaposed or coordinated clauses.[8]
- **Level III: Asymmetric Parataxis [AsPAR] —** clauses linked by *dependent stringing* (a) Coordinated clauses with same-subject ellipsis or verb-gapping, and (b) Complement clauses attached obligatorily to the MC.[9]
- **Level IV: Hypotaxis [HYPO] —** Relative and Adverbial clauses related to the MC by asymmetric *layering.*
- **Level V: Endotaxis [ENDO] —** Adverbial and Relative Clauses *nested* inside another clause.[10]

These types of clause-linkage are illustrated in (3) by the opening segments of high-school narratives in three languages.[11]

(3) Opening Segments of Three High-School Narratives:

    Hebrew [hH17]

    CP1: *Be-ofen klali ani loh mitxakexet be-ofen ishi imm yeladim le-itim krovot***. [ISO]**
           'Generally speaking I don't often personally rub up against other kids.'

    CP2: *Ha-mikre <še-ani maclixa laxshov alav axshav>* **[ENDO]** *hu mikre* **[ISO=MC]** *še-bo ben kita sheli paga bi.* **[HYPO]** *Hu tipus koxani meod* **[PAR=MCJ]**[12] *ve-noheg lehitapel el yeladim.* **[AsPAR]**
           'The incident <I manage to think about now> is one where a kid in my class hurt my feelings. He's a very power-hungry type and tends to pick on kids.'

    English [eH02]

    CP1: *When I was in the seventh grade,* **[HYPO]** *I had a conflict with a boy* **[ISO=MC]** *who was in a few of my classes.* **[HYPO]**

    CP2: *As it turned out,* **[HYPO]** *his father was an executive vice-president at the company* **[ISO=MC]** *where my father worked.* **[HYPO]**

    CP3: *The boy was constantly giving me grief* **[ISO=MC]** *saying* **[AsPAR, NF]** *that <if I ever did anything>* **[ENDO]** *<to upset him>* **[HYPO]**> *he would have my father fired.* **[AsPAR]**

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[8] We treat person-marking inflections as arguments, hence assigned to Level II symmetric parataxis. Inflectional marking of subject is across-the-board in Spanish, less so in Hebrew, as shown by children's symmetric parataxis by inflection in Spanish in (9) and by 3rd person pronoun in Hebrew in (7).

[9] This corresponds to Foley and Van Valin's (1984) 'co-subordination'.

[10] Each CP in the sample was specified, coded, and scored by two trained linguists, native speakers of the target languages, working separately to ensure reliability.

[11] Angled brackets mark center-embedded clauses; labels in square brackets indicate subject ID.

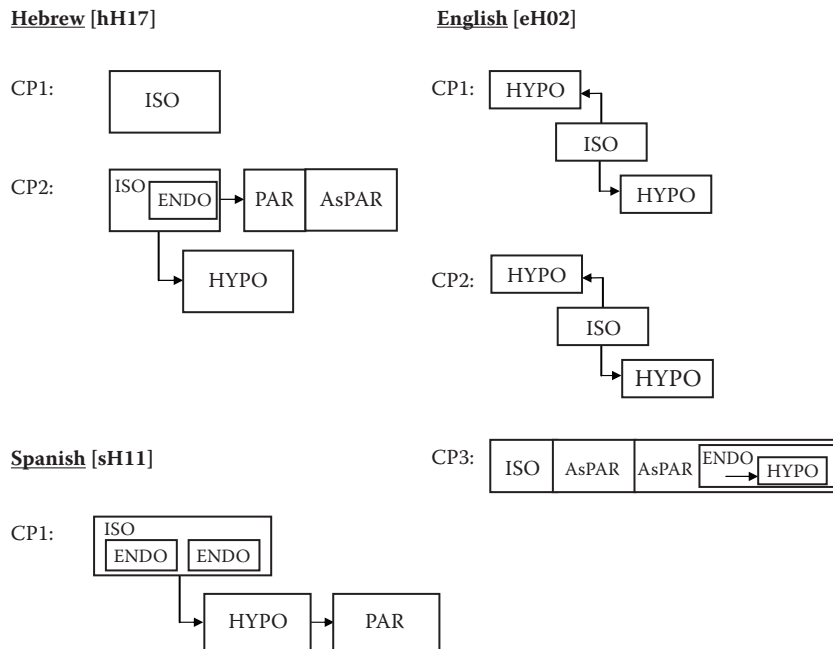[12] MCJ stands for a main clause related by juxtaposition without overt markers to the head MC.

Hebrew [hH17]   **English [eH02]**

Figure 11.1   Syntactic architecture of high-school narrative openings in three languages.

Spanish [sH11]
CP1:   *Uno de los casos más importantes <que he vivido>* **[ENDO]** *<relacionado con el mundo del colegio, los estudiantes y todo su ambiente>,* **[ENDO]** *fue el caso de un alumno* **[ISO=MC]** *que era compañero mío* **[HYPO]** *e incluso éramos amigos.* **[PAR]**

'One of the most important incidents <that I have lived> <relating to the world of school, students, and its whole atmosphere> was the case of a student who was a classmate of mine and (we) were even friends.'

The syntactic architecture of the three excerpts in (3) is represented graphically in Figure 11.1.

Figure 11.1 shows that adolescent narratives vary in their syntactic architecture, from the initial isolating clause in the Hebrew text, via the largely hypotatic relationships in English, and Spanish preference for endotaxis. This variation proved indicative of both age-related development and general language-related differences.

CROSSLINGUISTIC AND DEVELOPMENTAL TRENDS

Our analyses refine and extend Berman and Slobin's (1994) findings for syntactic packaging in the oral narratives of children, the oldest of whom were at the age of the youngest here. First, as shown in Figure 11.2, *CP density,* measured by mean number of clauses per package, increases with age in all three languages.

The breakdown in Figure 11.2 reaffirms that with age, narrators package information more densely into a single unit of discourse processing. They combine clauses in more tightly cohesive constructions, showing that they can pre-plan longer stretches of output within narrower pieces of discourse (Hickmann, 2003). Across age-groups and languages, clause-linkage (in written personal-experience narratives) ranges from around two and a half to five clauses per CP, with the three languages differing significantly in this respect: Spanish shows greatest CP density (M=4.21), followed by English (M=3.16), and Hebrew (M=2.74).

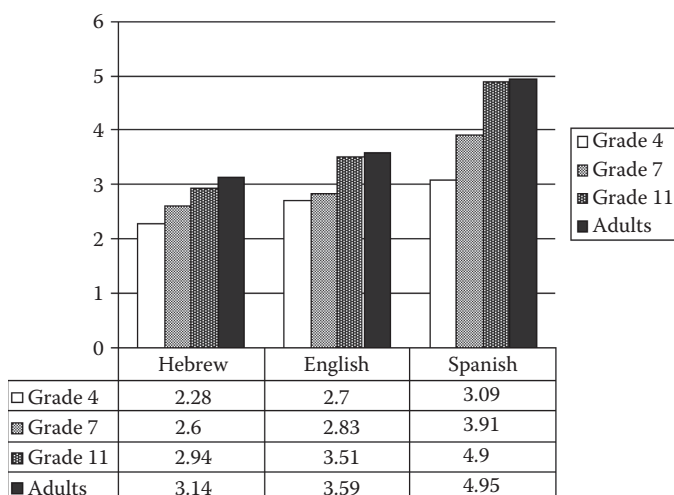|	Hebrew	English	Spanish
□ Grade 4	2.28	2.7	3.09
▨ Grade 7	2.6	2.83	3.91
▦ Grade 11	2.94	3.51	4.9
■ Adults	3.14	3.59	4.95

Figure 11.2   Mean number of clauses per Clause Package, by age and language [N = 20 per age-group in each language].

Crosslinguistic Comparisons

Analyses of the internal constituency of clauses packages in each language are consistent with these crosslinguistic differences in CP density. For example, typological differences between the three languages in same-subject ellipsis underlie contrasting use of coordinate and complement structures. Thus, while there was no significant difference in the extent to which the three languages relied on paratactic stringing (both symmetric and asymmetric), the languages differ in the *type* of stringing they prefer: Hebrew favors same-subject coordination, the bulk (85%) with ellipsis of the shared subject; English, as a subject-requiring language, deploys more pronominal type coordination; while Spanish favors different-subject coordination as an alternative to grammaticized same-subject inflectional marking. Spanish reliance on coordination with *different* subject nominals reflects a sophisticated "topic shifting" rather than a strictly sequential same-subject type of parataxis favored by Hebrew. These contrasting patterns underscore the idea that apparently similar surface forms in fact perform different functions in different languages.

CP-internal syntactic architecture reveals other language-specific *favored rhetorical options,* as follows: Spanish speaker-writers across the board use endotaxis or nesting (typically center-embedded relative and adverbial clauses) significantly more than the other two languages (Spanish, M=6.5; Hebrew, M=4.8; English, M=4.5).[13] In contrast, Hebrew speaker-writers favor isotaxis (Hebrew, M=12.58; English, M=3.86; Spanish, M=1.65), aligning syntactically autonomous clauses in a style that echoes classical Biblical Hebrew and Arabic (Johnstone, 1987; Ostler, 1987; Rubinstein, 1980). English lies between the two, relying far more on dependent stringing by complementation (English, M=14.5; Spanish, M=10.8; Hebrew, M=8.3) and on layering by nonfinite subordination (English, M=11.56; Spanish, M=9.62; Hebrew, M=4.18).

The favored rhetorical options we detected are illustrated by the sample texts in (4) to (6), narratives written by graduate school adults in their 20s and 30s, tagged for CP boundaries and type of clause packaging.

(4) Hebrew Woman's Narrative [hA16]
    CP1: *birconi lixtov al mikre shel xoser hitxashvut be-lakoax.* **[ISO]**
        '(It is) in-my-desire to-write about an incident of lack of consideration for a client.'

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[13] Figures in parentheses give mean proportion of each type of linkage out of total clauses per text.

CP2: *lifney kama shanim avarnu le-dira* **[ISO=MC]** *še-loh haya ba aron bgadim.* **[HYPO]**

'Some years ago, we moved to an apartment that didn't have a wardrobe.'

CP3: *hizmanu aron ecel xevrat rehitim.* **[ISO]**

'We ordered a closet from a firm of furniture-makers.'

CP4: *bizman ha-hamtana menahel ha-shivuk haya nexmad ve-xaviv.* **[ISO]**

'During the period of <u>waiting</u>, the manager of <u>marketing</u> was very nice and friendly.'

CP5: *ax <kše-higia zman ha-harkava* **[ENDO] <***še-kamuvan hitarex me'ever la-ta'arix <še-huvtax>>***[HYPO in ENDO=STACKED]***>, ha-hitxamkuyot hayu merubot, davar* **[ISO=MC]** *še-garam li ogmat nefesh beshel ha-siba* **[HYPO]** *še-bgaday hayu mefuzarim ba-xeder be-hamtana la-aron.* **[HYPO]**

'However, when the time came for <u>assemblage</u> of the closet, that naturally extended beyond the due date promised, the evasions were many, which caused me much distress for the reason that my clothes were scattered all-over the-room in <u>anticipation</u> of the closet.'

CP6: *leaxar telefonim rabim ve-keasim merubim <leaxar še-higia markiv cair ve-xasar nisayon >* **[ENDO]** *< še-hirkiv madafim akumim>***[HYPO in ENDO=STACKED]***> higia ha-markiv ha-menuse* **[ISO=MC]** *ve-hirkiv aron le-tiferet* **[AsPAR=COORD]**

'After numerous telephone-calls and many <u>wraths</u>, after (there) came a young, inexperienced assembler that assembled the shelves crooked, an experienced assembler arrived and assembled the closet superbly.'

CP7: *ota xevra loh tizke liroti shuv be-xanuta beshel ogmat ha-nefesh* **[ISO=MC]** *še hayta li* **[HYPO]**

'The said firm will not be-privileged to see me again in their store due to the distress that I had.'

Nearly half the CPs (3 out of 7) in this short Hebrew narrative consist of single clauses. We suggest that Hebrew might favor isotaxis because it is more "nominally" oriented than English or Spanish. Thus, Hebrew texts abound in verbless present tense constructions (the "nominal sentences" of traditional Hebrew grammars). And, as demonstrated by the underlined terms in the glosses in (4), strings that may constitute two or more predicating clauses in Germanic or Romance languages are often verbless in Hebrew. The language relies heavily on nominalizations of verbs and adjectives rather than on non-finite infinitives, participles, or gerunds (Berman, 1978), as a typical feature of sophisticated Hebrew narrative style (Ravid & Cahana-Amitay, 2005).

Compare this with the English-language text in (5).

(5) Californian Male Graduate Student's Narrative [eA05]

CP1: I experienced a brief conflict with a friend **[ISO=MC]** while in graduate school. **[HYPO]**

CP2: My friend and I discussed an incident **[ISO=MC]** in which a fellow student was asked **[HYPO]** to leave the program. **[AsPAR=CMP, NF]**

CP3: The student had been asked **[ISO=MC]** to leave **[AsPAR=CMP, NF]** because he had inappropriately obtained information for the upcoming qualification examination. **[HYPO]**

CP4: My friend's perspective was **[ISO=MC]** that the individual was being treated too harshly. **[AsPAR=CMP]** It was his view **[PAR=MCJ]** that a more thorough investigation plus a more lenient judgment may have been better. **[AsPAR=CMP]**

CP5: It was my argument **[ISO=MC]** that the person had a previous history of questionable behavior **[AsPAR=CMP]** and that the school had an obligation **[AsPAR=CMP]**

to rigorously enforce its own policies **[AsPAR=CMP, NF]** as well as ensure its own reputation. **[AsPAR=CMP, NF]**

CP6:   Over the next week this issue came up time and again with my friend and I. **[ISO]**

CP7:   Somehow the issue became personalized **[ISO=MC]** in that we each thought **[HYPO]** that the other was being too judgmental and rigid. **[AsPAR=CMP]**

CP8:   By week's end we both realized **[ISO=MC]** that we had misinterpreted **[AsPAR=CMP]** what the other was trying to say. **[HYPO]**

CP9:   It was an understandable situation **[ISO=MC]** in which we each thought **[HYPO]** that the other was criticizing our perspectives and values as opposed to our point of view **[AsPAR=CMP]** but by week's end we were able to clarify everything **[PAR]** and end the misunderstanding. **[AsPAR=GAP]**

CP10:   In summary, my friend and I misinterpreted **<**what was in fact an objective commentary**>** **[ENDO]** as a personalized criticism. **[ISO=MC]**

CP11:   By talking everything over **[HYPO, NF],** we were able to clear everything up **[ISO=MC]** and soothe the hurt feelings. **[AsPAR=GAP]**

Of the 37 clauses in the English narrative in (5), nearly a third are Complement clauses that we analyzed as dependent, asymmetric, parataxis, and several are non-finite. Rhetorically, this reliance on complementation for syntactic stringing of clauses differs markedly from stereotyped chaining of complement clauses in the "so s/he said and I said" interchanges common to personal-experience narratives, particularly about interpersonal conflict. And here they are governed by sophisticated predicates such as *was asked, realized, thought* or by abstract nominals like *his view, my argument, an obligation,* and not only the *verba dicendi* typical of complement clause construction among younger children. Although Spanish and Hebrew have similar structural options of complementation, narrators in these languages rely less on this device than their English-speaking counterparts.

The text in (5) contains relatively few *non-finite* clauses, evidently due to individual stylistic choice: The narratives of some English-speaking adolescents and adults abound in non-finite clauses, while others use them sparingly. Across the sample, however, nonfinite subordination is far commoner for clause packaging in English than in Spanish and particularly Hebrew, where it is negligible compared with non-verbal nominalizations.

Consider next, the quite typical adult narrative written in Spanish in (6).

(6) Spanish Woman's Narrative [sA04][14]

CP1:   *He vivido algunas situaciones en el colegio* **[ISO=MC]** *en las que no había nada de compañerismo.* **[HYPO]**
'(I) have lived [=experienced] some situations in school in which there was no companionship.'

CP2:   *A lo mejor en un exámen yo no sabía algo* **[ISO=MC]** *y se lo preguntaba a un compañero* **[PAR]** *y éste no me hacía ni caso* **[PAR]**. *Mientras que <a mí cuando me preguntaban>* **[ENDO]** *les contestaba* **[PAR]** *o le acercaba mi exámen* **[PAR]** *para que lo vieran.* **[HYPO]**
'Probably on a test I didn't know something and (I) asked a friend about it, and that-one [=he] took no notice of me. Whereas, while (people) were asking me, (I) responded to them or (I) moved my test closer, so that (they) would see it.'

CP3:   *También me he quedado con el dinero de alguna persona* **[ISO=MC].** *En el vestuario de un gimnasio me he encontrado dinero* **[PAR]** *y <sabiendo* **[ENDO, NF]** *<que era de alguna de las personas>* **[HYPO in ENDO=STACKED]** *<que había allí>* **[HYPO in ENDO=STACKED]** *<en lugar de preguntar* **[HYPO, NF in ENDO=STACKED]** *>>>> me lo he quedado.* **[PAR]**

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[14]This Spanish adult text is not a canonic narrative, but recounts personal experiences with the situations depicted in the video that served as a trigger to text elicitation.

'Also (I) have kept the money from some person. In the changing room of the gym, (I) have found some money, and knowing that (it) was of [=belonged to] some of the people that were there, instead of to-ask [=instead of asking], (I) kept it for myself.'

CP4:   *He visto* **[ISO=MC]** *cómo niñas de mi clase han despreciado a otra* **[AsPAR=CMP]** *por querer simplemente* **[HYPO, NF]** *juntarse con ellas.* **[HYPO, NF]**
'(I) have seen how girls in my class have mocked another (girl) for to-want [=because of wanting] simply to-be-together with others.'

In marked contrast to the Hebrew text in (4), isotaxis here functions only in the main clauses of CPs, although the two texts are similar in rhythm and tempo. Thus, the Spanish text in (6) starts out relatively flatly, builds up to richly elaborated syntactic nesting in the two middle CPs, and then winds down again at the end. CP3 shows a multiple layering plus nesting of one clause inside another of a kind far commoner in Spanish than the other languages, even among adults. Unlike the English narrative in (5), the Spanish text contains few complements and non-finite predicates, the latter in a present-participle adverbial (*sabiendo*) or preposition-governed infinitives (*en lugar de preguntar, por querer, (por) juntarse*).

The three texts in (4) to (6) illustrate key features of contrastive rhetoric. First, the notion of "favored" rhetorical device is not absolute, but describes a *relative preference* for some over other of the options available in the target language. Thus, as can be seen by CP5 and CP6 in (4)—the story's "high point" (Labov, 1972)—mature Hebrew speaker-writers can and do use hypotaxis and endotaxis, and they also stack the two together when they wish—here, to recount the complicated series of events that constitute the main episodes. However, as noted, Hebrew speakers rely on these options far less than their peers in Spanish, with English lying in-between. Second, echoing another of Slobin's insights, the *same function* is expressed by different forms both developmentally and also across languages. All three languages possess similar repertoires for clause-linking— juxtaposition-ing, same and different subject coordination, complementation, adverbial and relative clauses. But they differ in the means they favor for expressing the rhetorical functions of stringing, layering, and nesting.

Age-Related Comparisons

Our analyses revealed a clear interaction between target language and age and level of schooling. For example, hypotactic "layering" increases significantly by age in all three languages; but in Span-ish, this occurs more than in the other languages from as early as 4th grade, in English it increases significantly from 7th grade, whereas in Hebrew, hypotaxis is used across the group rather than as an occasional individual preference only from high school.

In general, the crosslinguistic trends we noted emerge even in the youngest age-group, becom-ing more marked from Grade 7 and especially from high school on. This underlines Slobin's recogni-tion that young children not only know the linguistic forms of their native language, they also have a sense of its rhetoric. Yet it takes until adolescence and beyond for these preferences to consolidate, on the one hand, and to be flexibly varied across a range of alternative options (here, for clause pack-aging architecture), on the other.

Clause packaging also interacts with other facets of more advanced text construction abilities. The fact that high school emerged as a cut-off point between younger children and adults in syntactic architecture corresponds to findings from other domains in the crosslinguistic project, including: lexi-cal density, diversity, and register in English (Nir-Sagiv, Bar-Ilan, & Berman, 2008); use of verb-tense and morphology in Hebrew (Berman & Nir-Sagiv, 2004); and devices for downgrading agency in Spanish (Tolchinsky & Rosado, 2005). Together, these findings underscore the close interconnec-tion between general social cognitive developments and the flowering of rhetorical expressiveness in adolescence.

Finally, as predictable from Slobin's developmental credo, the *functions* of the same surface linguistic forms change across time. We illustrate this by narratives written by three children from the youngest age-group in (7) through (9).

(7) Story Written by Hebrew-Speaking 4th-Grade Boy [hG09]

CP1:   *xaver sheli loh haya xaver shel yeled axer.* **[ISO]**
'My friend wasn't friends with another kid.'

CP2:   *ve-az pitom hu asa ito daf be-beyt ha-sefer* **[ISO=MC]** *ve-hu amar lo loh lihyot xaver sheli.* **[PAR]**
'And then suddenly he did classwork with him at school and he told him not to be my friend.'

CP3:   *ve-az hu loh haya xaver sheli shavua shalem.* **[ISO]**
'And then he wasn't my friend a whole week.'

CP4:   *ve-pitom hu haya xaver sheli ve-loh shelo.* **[ISO]**
'And suddenly he was my friend and not his.'

This juvenile (though not atypical) 4th grade story consists mainly of isolated clauses, with each of the three non-initial CPs initiated by a discourse marking segment-tagger *and, and then, and suddenly,* similarly to the oral "frog story" narratives of 5- and 9-year-old Hebrew-speaking children (Berman, 1996; Berman & Neeman, 1994). The functions of these same forms differ when used by young children compared with more mature narrators. Among children, isolating clauses often constitute the entire narrative skeleton, with each step in the sequence of events presented separately, so that clause packaging serves to string situations one after another, as the story proceeds in time and verbal output, with no hierarchical pre-planning. In the Hebrew adult text in (4), the first few CPs likewise consist largely of clauses that are minimally strung together syntactically, but here, they serve the writer to set the background and specify the story-initiating event. From the high point on, the crux of her story is conveyed by densely linked packages of clauses, ending in a minimally layered final CP. This lends the text in (4) a hierarchically integrated rhythm and tempo by initial stringing of statements leading up to a high point and winding down again. Such flexible, globally motivated alternation is rare among children but common in more mature narratives that mark their story openings and closings as distinct in thematic content (Tolchinsky, Johansson, & Zamora, 2002) and in linguistic forms (Berman & Katzenberger, 2004), as well as in their clause-combining syntactic architecture.

Young Hebrew-speaking children can and do package clauses together by hypotaxis and occasional endotaxis not only by parataxis. But, again unlike more proficient speaker-writers of the language, they do so locally, as a means of linking individual clauses, rather than subordinating clause packages to the over-arching organization of the text as a whole. A not dissimilar picture emerges in the (again quite typical) 4th-grade English-language story in (8), although this relies far more on asymmetric parataxis by complementation.

(8) Story Written by English-Speaking 4th Grade Boy [eg03]

CP1:   Me and my sister got a beanie baby at Children's Hospital. **[ISO]**

CP2:   We left them both on the day bed. **[ISO]**

CP3:   When we came back, **[HYPO]** we did not know **[ISO=MC]** which one was which, **[AsPAR=CMP]** so we started to fight about it. **[HYPO]**

CP4:   My sister gave me the wrong beanie baby **[ISO=MC]** and I said to Juliet **[PAR]** that mine had a wrinkle on his head. **[AsPAR=CMP]**

CP5:   So Juliet gave me the one **[ISO=MC]** she had in her hand. **[HYPO]**

CP6:   I took a marker **[ISO=MC]** and marked mine **[AsPAR= COORD]** and Juliet did not **[AsPAR=GAP]** so we know **[HYPO]** which one was which. **[AsPAR=CMP]**

Unlike the English adult text in (5), the complement clauses in (8) all follow linearly from their matrix clauses, not embedded inside one another or inside coordinate or subordinate clauses. And

the matrix predicates are the basic *know, said.* Also in contrast to the adult text, this child's narrative contains no non-finite clauses, as a tightly woven means of subordinating one facet of a situation to another. While non-finite subordination does occasionally show up in the English 4th and 7th grade samples, it becomes a preferred rhetorical option for many English-speaking narrators only from high school on.

The Spanish child's text in (9) contrasts markedly with those of her Hebrew- and English-speaking peers: It contains several relative and adverbial clauses, its paratactic strings are often embedded in a layered fashion inside coordinate or subordinate clauses, and it contains an endocentric construction nested inside another, all mirroring the densely packaged rhetoric of Spanish narrative style. On the other hand, in the attitudes it expresses, in thematic content, and even in the linguistic forms it deploys (with occasional grammatical errors), this narrative remains clearly juvenile.

(9) Story Written by Spanish-Speaking 4th-Grade Girl [sG13]

> **CP1:** *El otro día mis amigas se pelearon* **[ISO=MC]** *y empezaron a hacerse burlas y cada vez más.* **[PAR]**
> 'The other day my friends quarreled and began to play tricks and every time more.'
>
> **CP2:** *Entonces la *castigaron* **[ISO=MC]** *pero todavía no se han perdonada* **[PAR]** *y en la clase se pelean todos los días.* **[PAR]**
> 'Then (they were) punished but still (they) have not forgiven one another and in class (they) quarrel every day.'
>
> **CP3:** *A mí no me gustan las peleas* **[ISO=MC]** *porque después empiezan* **[HYPO]** *y en mi clase he visto* **[PAR]** *que nunca se acaban.* **[AsPAR=CMP]**
> '**'**I don't like quarrels because afterwards (they) begin and in my class (I) have seen that (they) never end.'
>
> **CP4:** *Pero me gustaría* **[ISO=MC]** *que lo arreglaran* **[AsPAR=CMP]** *porque somos compañeros* **[HYPO]** *y tenemos que llevarnos bien* **[HYPO]** *porque si no todos los años <que nos quedan>* **[ENDO]** *seguirán peleándose* **[HYPO]** *y eso a mí no me gusta.* **[HYPO]**
> 'But I would like that (they) should get on because (we) are classmates and (we) should get on well because if not all the years that remain to-us (they) will-continue quarreling with one another and me, I don't like that.'

This Spanish girl's text is a dramatic demonstration of Slobin's notion of "typological bootstrapping." Just as Hebrew-speaking preschoolers find it quite natural to manipulate stem-internal vowel changes in alternating between past and present tense or between nouns and adjectives, and they inflect verbs and adjectives for gender and number agreement; just as young English speakers learn to manipulate the complex auxiliary alternations and the *wh-* marking systems of their language; so Spanish-speaking children early on demonstrate remarkable facility with layering and even nesting clauses as typologically preferred ways of clause packaging in their language.

This picture is confirmed by what we found for endotaxis across the sample: Spanish makes significantly more use of endotactic nesting than English or Hebrew and it exhibits the clearest developmental trend from grade school across adolescence in this respect. In English, and even more markedly in Hebrew, endotaxis increases somewhat as a function of age, but it remains a largely individual rhetorical preference, rather than an across-the-board typological feature of the language. This interaction between typology and development is particularly marked in the case of *stacking* ("X on hypotaxis"): multiple layering of clauses by incorporation of coordinate, complement, and/or subordinate clauses inside subordinates. Stacked clause packaging occurs significantly more in Spanish across the sample. And it shows a dramatic age-related increment in all three languages,

being rare among the youngest children, rising significantly at junior high school age in Spanish, and from high school in English and Hebrew.

DISCUSSION

We hope to have shed light on *advanced syntax* from several novel perspectives. Development of clause packaging architecture involves more than the number of clauses packaged together in a single unit of text or a straightforward shift from isolating via coordinating to subordinating. Rather, syntactic architecture changes as constructions known to children from preschool age are used in new combinations to form more varied and complex clause packages. And typologically, the earliest and most accessible types of packaging reflect the favored rhetorical options of a given target language, by stringing, layering, or nesting.

The analytical framework we propose allows for a fine-tuning of the notion "syntactic architecture" by specifying the depth and distance of attached clauses within a CP.[15] Thus, complexity of clause-linkage relates critically to cases where coordinate, complement, and subordinate clauses depend not on the main clause but on each other. More fine-grained analyses are now under way to detail the nature of these attachments: in *amount*—the number of clauses attached to a given MC within a CP; *variety*—the number of different types of non-MCs within the CP; and *structure*—coordination by juxtaposition, different/same subject pronominalization/ellipsis; adverbial clauses inside, preceding, or following the MC, and types and positions of relative clauses. Of particular interest are constructions confined to adult texts, like relative clauses constructed on propositions rather than on NPs in English or non-finite gerundives in Hebrew. In addition, investigation of the interaction between phrase-level intra-clausal complexity and inter-clausal packaging might reveal a "trade-off" between the two across development and languages.

The notion of *preferred rhetorical options* was a leitmotif of this chapter. Here, across-group trends that we observed need to be hedged by considering individual differences. For example, not only was non-finite subordination favored significantly more in English than Spanish and especially Hebrew, within-group variation for this domain reflects a similar pattern. In Hebrew, variation is high across the sample, pointing to this as an individual choice; in Spanish, non-finites become a "group" option only for adults, hence are a highly sophisticated device; in English, non-finites are favored across the group from high school on, underlining the difference between developmentally constrained and typologically pervasive rhetorical preferences. Just as even very young children use most if not all of the structural options available in the target language, so will some though not all speaker-writers of a language deploy typologically less favored options in the course of text construction.

We conclude with a note on methodology and directions for future research. There is a rich literature on clause-combining in linguistics, but relatively little on discourse-embedded syntax in acquisition research. Our study was inspired by the procedures for crosslinguistic and developmental data elicitation that originated in Slobin's (1967, 1982) early work on acquisition of communicative competence, as extended to narrative discourse in the frog-story studies (Slobin, 2004b). Following principles established for the Berman and Slobin (1994) study, our current crosslinguistic research relates to monologic texts based on a shared trigger, derived by similar instructions, and divided into clauses and clause packages by parallel procedures in different countries. This ensured close comparability of the analyses presented here for three languages across four age-groups. Further research along similar lines should be undertaken—of additional languages, oral as well as written narratives, and expository as well as narrative texts—as the basis for fresh insights into developing text construction abilities and contrastive rhetoric within and beyond the domain of clause packaging.

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[15]Our notion of "depth" is not equivalent to position on a generative tree structure. Although the Main Clause is defined as the head of a CP, its associated clauses are not necessarily related by principles of X-bar structure.

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