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# Course paper

The theme: Linguistic typology

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# Linguistic typology

## Introduction

Simply speaking, the study of universals is concerned with what human languages have in common, while the study of typology deals with ways in which languages differ from each other. This contrast, however, is not sharp. When languages differ from each other, the variation is not random, but subject to limitations. Linguistic typology is not only concerned with variation, but also with the limitations on the degree of variation found in the languages of the world. It is due to these limitations that languages may be meaningfully divided into various types.

For instance, typologists often divide languages into types according to so-called **basic word order**, often understood as the order of subject (S), object (O) and verb (V) in a typical declarative sentence. The vast majority of the languages of the world fall into one of three groups:

- SOV (Japanese, Tamil, Turkish etc.)
- SVO (Fula, Chinese, English etc.)
- VSO (Arabic, Tongan, Welsh etc.)

Logically speaking, there should be nothing wrong with the three other possibilities: VOS, OVS and OSV. As mentioned above, however, they are exceedingly rare and typically occur in areas that have been relatively isolated. The three main groups have one thing in common, that the subject precedes the object. It is a small step, therefore, from basic word order typology to the formulation of the statistical universal we became acquainted with in the previous chapter:

Subjects tend strongly to precede objects.

The study of typology and the study of universals, therefore, go hand in hand.

In this chapter, we will have a look at morphological typology, word order typology, the typology of motion verbs, and the typological distinction between tone languages and stress languages. These are only a few examples of the large amount of phenomena that may be studied from a typological viewpoint.

First, however, we shall discuss a little further what typology is, and what it is not.

## The many ways to search for a frog: Linguistic typology and the expression of motion events

*Dan I. Slobin*

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## 1. TYPOLOGY

The chapters in this volume, along with the extensive list of frog story studies in the Appendix, provide a rich database for the exploration of particular questions of language use and acquisition. The studies reported in Part I reflect a range of languages of different types, making it possible to focus on the role of linguistic typology in narrative construction.<sup>1</sup> A recurrent concern in those studies is the expression of motion, which is one of the dominant themes of *Frog, where are you?*. In one way or another, all of the studies confront Talmy's by now familiar typology of verb-framed and satellite-framed languages (Talmy, 1985, 1991, 2000). Briefly, the typology is concerned with the means of expression of the *path* of movement. In *verb-framed languages* ("V-languages") path is expressed by the main verb in a clause ('enter', 'exit', 'ascend', etc.), whereas in *satellite-framed languages* ("S-languages") path is expressed by an element associated with the verb ('go in/out/up', etc.). This dichotomy has engendered a good deal of research and debate in the literature on motion event descriptions over the past decade or so.<sup>2</sup> In this concluding chapter on typological perspectives I suggest that several different sorts of factors "conspire" to produce a range of frog story varieties. These varieties result from combined influences of linguistic structure, online processing, and cultural practices. Talmy's typology was designed to characterize lexicalization patterns, and it has provided important insights into the overall set of structures that define individual languages. However, the typology alone cannot account for discourse structures, because language use is determined by more than lexicalization patterns. It is striking how much has been learned by application of the V-language/S-language contrast, and it still plays a part in the mix of factors considered here. But a fuller account of narrative organization will require attention to a range of morphosyntactic, psycholinguistic, and pragmatic factors. Some of these factors are explored in this chapter, with regard to motion events in the frog story. The aim is to come to a fuller explanation of the ways in which languages differ in *rhetorical style*.

In order to arrive at this goal, the chapter examines three major components of motion events across languages: manner of motion, path of motion, and grounds (landmarks). Talmy's typology casts light on crosslinguistic differences in the expression of each of these components in narrative. However, in order to more fully account for these differences, a number of additional factors present themselves. A language provides its speakers with a range of ways of describing motion events—combinations of lexical items and grammatical morphemes in various construction types. In attempting to define patterns of rhetorical style, it is also necessary to consider language-processing capacities (short-term memory, cognitive load), paralinguistic factors (voice quality, gesture), cultural practices, and modality (speech, writing, sign language). In learning a particular language, one develops habitual patterns of organizing all of these factors in guiding attention to dimensions of experience for narrative expression. On the basis of detailed examination of frog story data, a revision of Talmy's typology is proposed. It is also proposed—with regard to manner of motion—that it is more useful to rank languages on a cline of manner salience than to allocate them to one of several distinct typological categories. This is because of the finding that a number of factors contribute to the degree of salience of manner in a language.

<sup>1</sup> The languages presented in Part I are American Sign Language (Galvan & Taub), Arrernte (Wilkins), Basque (Ibarretxe-Antuñano), Icelandic (Ragnarsdóttir & Strömqvist), Swedish (Ragnarsdóttir & Strömqvist), Thai (Zlatev & Yangklang), Tzeltal (Brown), Warlpiri (Bavin), and West Greenlandic (Engberg-Pedersen & Trondhjem).

<sup>2</sup> See, especially, Ameka & Essegbey, in press; Berman & Slobin, 1994; Billman, Swilley, & Krych, 2000; Croft et al., 2002; Filipović, 1999, in preparation; Fong & Poulin, 1998; Hohenstein, 2001; Gennari et al., 2002; McNeill & Duncan, 2000; Mora Gutiérrez, 1998; Naigles et al., 1998; Naigles & Terrazas, 1998; Narasimhan, 1998; Oh, in preparation; Ohara, 2000; Özçalışkan, 2002; Özçalışkan & Slobin, 1999, 2000a, 2000b, in press; Papafragou, Massey, & Gleitman, 2002; Slobin, 1996, 1997, 2000, 2002.

In the first volume of frog story studies (Berman & Slobin, 1994) there were three V-languages (Spanish, Hebrew, Turkish) and two S-languages (English, German). Berman and Slobin proposed the following typological contrasts between narratives in these languages:

Satellite-framed languages allow for detailed description of paths within a clause, because the syntax makes it possible to accumulate path satellites to a single verb, along with prepositional phrases that add further specification (e.g., *the deer threw them off over a cliff into the water*). ... The satellite-framed languages in our sample also tend towards greater specification of manner, probably because the lexicon provides a large collection of verbs that conflate manner with change of location (*crawl, swoop, tumble*, etc.), often conflating cause as well (*dump, hurl, shove*, etc.). In verb-framed languages, such elaboration is more of a “luxury,” since path and manner are elaborated in separate expressions, which are generally optional, and which are less compact in form [e.g., ‘exit flying (from the hole)’ vs. ‘fly out (of the hole)’]. As a consequence of these differences, it seems—at least in our data—that English and German narrations are characterized by a great deal of dynamic path and manner description, while Spanish, Hebrew, and Turkish narrations are less elaborated in this regard, but are often more elaborated in description of locations of protagonists and objects and of endstates of motion. (pp. 118-119)

These patterns are now reflected in a much greater range of languages of the two types; but there is more to the story.<sup>3</sup> Consider “the owl episode” in *Frog, where are you?*, attending only to the boy and the owl as protagonists. There are two pictures:

11. The boy is in a tree, straddling a branch, looking into a hole.
12. An owl with extended wings is located in the hole; the boy is lying on his back on the ground, with arms and legs extended upwards.

From these two pictures—building on the previous ten pictures and accessing world knowledge—a complex physical event can be inferred:

- a. boy climbs tree;
- b. boy looks into hole;
- c. owl emerges from hole;
- d. boy falls from tree to ground.

Based on plot comprehension and world knowledge—both physical and psychological—a complex causal event can be inferred:

- i. (a) and (b) are motivated by the boy’s search for the runaway frog;
- ii. the boy’s action has aroused the owl;
- iii. the emergence of the owl (c) causes the boy to fall from the tree (d).

<sup>3</sup> The data reported here come from a range of published and unpublished studies carried out at the Institute of Human Development, University of California, Berkeley and in collaboration with other institutions, as well as data reported in this volume. Narratives were gathered from preschoolers (age 3-5), school-age children (age 6-11), and adults, with 10-20 stories per age group. The following collaborators have been involved, along with many Berkeley students: Basque: I. Ibarretxe-Antuñano; Dutch: J. Aarssen, P. Bos, L. Verhoeven; English: V. Marchman, T. Renner, G. Wigglesworth; French: H. Jisa, S. Kern; German: M. Bamberg, M. Carroll, C. von-Stutterheim; Hebrew: R. A. Berman, Y. Ne’eman; Icelandic: H. Ragnarsdóttir; Italian: P. Cipriani, M. Orsolini; Mandarin: J. Guo, A. Hsiao; Polish: M. Smoczyńska; Portuguese: I. Hub Faria; Russian: Y. Anilovich, N. V. Durova, M. Smoczyńska, N. M. Yureva; Serbo-Croatian: S. Savić; Spanish: A. Bocaz, J. Covey, E. Sebastián; Swedish: Å. Nordqvist, S. Strömqvist; Thai: J. Zlatev, P. Yangklang; Turkish: J. Aarssen, A. A. Aksu-Koç, A. Kuntay, Ş. Özçalışkan. L. Verhoeven.

This much is shared by all mature “readers” of the pictures. However, the accumulated collections of frog stories show tremendous diversity in the ways in which this event is narrativized across ages and languages. Because the goal of this chapter is to focus on crosslinguistic and typological issues, most of the examples will be drawn from adult narratives. That is, we will primarily focus on developmental “endstates”—the language-particular goals of learning.

To simplify the task, consider two motion events: the emergence of the owl and the fall of the boy, along with their associated locations with regard to the tree. Let us begin with English. The owl episode can be related in a matter-of-fact way, as in the following example from an American English-speaking adult (leaving out intervening clauses that deal with the behavior of the dog and the bees):

- (1) *the boy climbs on top of the tree  
the hole the boy was looking into  
was the home of an owl  
and the owl came out of the hole  
and scared the boy  
the boy fell off the tree  
and landed on his back*

Every clause in this narrative segment presents inferred information, that is, information that goes beyond the two static pictures. Verbs are used to move the protagonists: *climb, come out, fall, land*. The ground elements are labeled with nouns: *tree, hole*. We have to infer that the hole is in the tree; and we are not told why the owl emerged or why the boy fell, though we can draw an inference about the latter event from the verb *scare*. This, of course, is not the only way of narrating the owl episode in English. Another American English-speaking adult is rather different, especially in the use of verbs of motion:

- (2) *after that he continues  
and climbs up on this tree  
and looks in this hole for the frog  
the boy tumbles down from the branch  
because of an owl  
who's popped up from the hole*

The verbs that move the protagonists provide additional information about manner of motion: *tumble, pop up* (in addition to *climb*, shared with the first version). Again, we have to infer that the hole is in the tree; but we're told that the emergence of the owl somehow caused the boy to fall (*because of*).

Turning now to Spanish, we find narratives that are similar to (1). The following is from a Chilean adult:

- (3) *el niño sigue buscando en un árbol (=the boy continues searching in a tree)  
que tiene un hueco (=that has a hole)  
dentro de ese árbol vacío aparece un buho (=inside of this empty tree an owl  
appears)  
que asusta al niño (=that scares the boy)  
y el niño se cae (=and the boy falls)*

However, there are no Spanish equivalents of (2) in frog stories gathered in Chile, Argentina, and Spain. In Spanish, the boy ‘ascends’ (*subir*) the tree; the owl ‘appears’ (*aparecer, asomarse*) or ‘exits’ (*salir*), and the boy ‘falls’ (*caerse*). There is no *climbing, clambering,*

*popping out, flying out, tumbling, crashing to the ground*, or the like. That is, the languages differ in their attention to *manner* of movement.

By contrast, the Spanish stories often are precise in locating the ground objects, as in the description in (3): *un árbol que tiene un hueco* (=a tree that has a hole). Other examples are: *uno de los huecos que hay entre las ramas del árbol* (=one of those holes that there are between the branches of the tree); *un árbol que tenía un buho dentro* (=a tree that had an owl inside). English often leaves the locations of ground elements to inference, as in (1) and (2), or makes use of compact phrases to convey such locative information: *the hole in the tree*, or simply *a tree hole*. Often it is the owl that is the foregrounded reference point, rather than the tree: *there was only an owl in the big old hollow tree*.

As discussed in “Frog I” (Berman & Slobin, 1994) and elsewhere (Slobin, 1996, 1997, 2000, 2002), languages differ systematically in *rhetorical style*—that is, the ways in which events are analyzed and described in discourse.<sup>4</sup> And, as I have proposed earlier, these differences are grounded in typological characteristics of morphosyntax and lexicon, often allied with cultural narrative practices. These themes are repeated in many chapters in “Frog II” (the present volume). By now we have enough frog story data, across a range of languages and cultures, to begin to extend and revise the typological picture presented in Frog I. I want to propose that rhetorical style is determined by the relative *accessibility* of various means of expression, such as lexical items and construction types. That is, *ease of processing* is a major factor in giving language-particular shape to narratives. At the same time, cultural practices and preferences reinforce habitual patterns of expression. The picture is complex—as we will see—because various options compete or conspire to provide the overall shape to narrative production. And because the various means of expression are not completely obligatory, the data from each language present a range of possible narrative patterns.

This chapter tracks these issues across three major components of motion events: *manner of motion, path*, and *ground elements* (landmarks). We begin with the dominant typology presented in Frog I and Frog II: Talmy’s verb-framed and satellite-framed dichotomy. As noted at the outset, however, it will become evident that this dichotomy is only part of a complex system of interacting factors.

## 2. MANNER OF MOTION<sup>5</sup>

The typology can be approached from two angles: How is *manner* of motion expressed and how is *path* of motion expressed? The expression of path defines a motion event in the typology. In Talmy’s definition (2000, p. 25): “The basic Motion event consists of one object (the *Figure*) moving or located with respect to another object (the reference object or *Ground*).”<sup>6</sup> Path, then, is obligatory; but manner is optional and can range from rather

<sup>4</sup> The patterns of rhetorical style discussed in this chapter are found in narratives, and I use the terms “rhetorical” and “narrative style” interchangeably here. However, similar patterns are found in non-narrative discourse, suggesting general language-specific patterns of rhetorical style across genres (Slobin, 1997, 2000, 2002).

<sup>5</sup> “Manner” covers an ill-defined set of dimensions that modulate motion, including motor pattern, rate, rhythm, posture, affect, and evaluative factors.

<sup>6</sup> Note that this definition includes static location, translational motion, and self-contained motion. The events discussed in this chapter are only those of translational motion, defined as events in which “an object’s base location shifts from one point to another in space” (Talmy, 2000, p. 35). *Path* is treated as consisting of three components (pp. 53-57): (1) the Vector (AT, TO, FROM, ALONG, etc.), (2) the Conformation (POINT, ENCLOSURE, VOLUME, etc.), and (3) the Deictic (±TOWARD SPEAKER).

general manners, such as *walk*, *run*, and *fly*, to quite specific distinctions, such as *limp*, *sprint*, and *swoop*. Taking manner as a starting point, it appears that languages vary considerably with regard to this dimension, with V-languages paying much less attention to manner than S-languages, for a variety of reasons.

### 2.1. The emergence of the owl across languages

We begin with the emergence of the owl in five languages categorized by Talmy as V-languages (Spanish, French, Italian, Hebrew, Turkish) and five categorized as S-languages (English, German, Dutch, Mandarin, Russian).<sup>7</sup> In V-languages, narrators of all ages almost always describe the appearance of the owl with a single path verb, meaning ‘exit’. For example:

(4) V-languages:

- a. Spanish: *Sale un buho*. (=Exits an owl.)
- b. French: *D’un trou de l’arbre sort un hibou*. (=From a hole of the tree exits an owl.)
- c. Italian: *Da quest’albero esce un gufo*. (=From that tree exits an owl.)
- d. Turkish: *Oradan bir baykus çıkıyor*. (=From there an owl exits.)
- e. Hebrew: *Yaca mitox haxor yanšuf*. (=Exits from:inside the:hole owl.)

By contrast, many S-language narrators, at all ages, use some kind of manner verb together with a path satellite to add some sort of dynamic information about the owl’s emergence. For example:

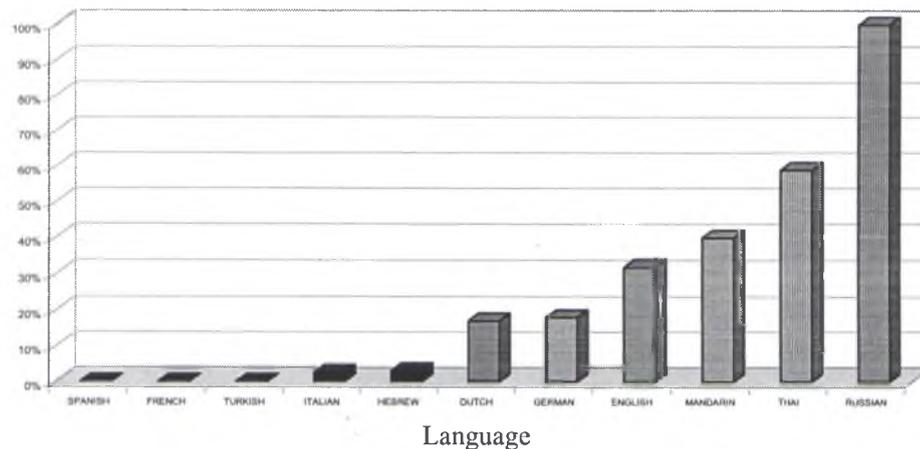
(5) S-languages:

- a. English: *An owl popped out*.
- b. German: *...weil da eine Eule plötzlich raus-flattert*. (=...because there an owl suddenly out-flaps)
- c. Dutch: *...omdat er een uil uit-vliegt*. (=...because there an owl out-flies)
- d. Russian: *Tam vy-skočila sova*. (=There out-jumped owl.)
- e. Mandarin: *Feil-chu1 yi1 zhi1 maol tou2 ying1*. (=Fly out one owl.)

Figure 1 shows the percentage of narrators using a manner verb to describe the appearance of the owl, adding data on Thai (Zlatev & Yangklang, 2003). The differences between the two language types are dramatic (solid black = V-languages; grid = S-languages). Manner verbs are simply not used in the V-language descriptions (with two exceptions, discussed below.) On the S-language side, however, there are obvious differences between the relatively low use of manner verbs by the three Germanic languages, the higher use in Mandarin and Thai, and the much higher use in Russian. Here we have the first hint that rhetorical style is based on more than Talmy’s two-way typology. (As suggested later in the chapter, it seems more useful to treat these data as representing a continuum of manner salience.)

<sup>7</sup> Later we examine intra-typological differences, comparing Germanic and Slavic satellites and considering whether serial-verb languages such as Mandarin and Thai should be classed as S-languages.

Figure 1. Percentage of Narrators Using a Manner-of-Motion Verb for the Owl's Emergence



## 2.2. Lexical availability and construction types

All of the languages in this sample have frequent manner verbs that are applicable to this scene—in particular, versions of ‘fly’. Why isn’t ‘fly’ used in the V-languages? The answer probably lies in what Slobin and Hoiting (1994) have called the “boundary-crossing constraint,” building on Aske’s (1989) identification of the role of telicity in the use of manner verbs in Spanish. It appears that V-languages only license the use of a manner verb as a main verb in a path expression if no boundary-crossing is predicated. Thus it is possible, across a range of V-languages, to say the equivalent of ‘fly to/from the tree’ but not ‘fly out of the hole’. Perhaps the most salient characteristic of V-languages is the preference to mark a *change of state* with a verb, rather than by some other device. With regard to motion events, changes of state are boundary-crossing events: enter, exit, cross. In order to add manner to such events, some sort of subordinate construction is required—equivalents of ‘exit flying’. Although this option is available in the five V-languages considered here, it was not taken by any narrator, at any age (from 3 to adulthood). There are at least two sorts of explanations for this avoidance: (1) the construction unnecessarily foregrounds the owl’s manner of movement and (2) it is “heavy” in terms of processing (production/comprehension).

Typically, in V-languages, a neutral verb of motion is used to designate a creature’s normal manner of movement: owls ‘go’, fish ‘go’, people ‘go’, cats ‘go’, and so forth. Manner verbs are used when manner is foregrounded—and then owls can ‘soar’ or ‘flap’ (but apparently not across boundaries). The only exception seems to be verbs that encode particular force dynamics—high energy motor patterns that are more like punctual acts than activities, such as equivalents of ‘throw oneself’ and ‘plunge’. Such verbs occur with boundary crossing in V-languages. This may be because a sudden boundary crossing can be conceptualized as a change of state, and what is apparently most characteristic of V-languages is the use of *verbs* to encode change of state. What seems to be blocked is the conceptualization of manner of motion as an activity that is extended in time/space while crossing a boundary (Kita, 1999). That is, boundary-crossing is a change of state and manner verbs are generally activity verbs. The only manner verbs that can occur in boundary-crossing situations are those that are not readily conceived of as activities, but, rather, as “instantaneous” acts. Thus one can ‘throw oneself into a room’ but one generally can’t ‘crawl into a room’ in V-languages.

With regard to the frog story, all of the V-language narrators focused on the owl's emergence or appearance, with an occasional adverbial indication of suddenness, rather than focus on the activities of flying or flapping out. In the entire corpus, there are only two instances of manner verbs in this scene, and, interestingly, neither of them is a boundary-crossing construction. An Italian 5-year-old said, *il gufo volò, il bambino cascò* 'the owl flew, the boy fell'; and an Israeli adult said, *yansuf kofec meha'ec* 'owl jumps from:the:tree'. Note that these are both simple clauses, in which the manner verb is the main verb and no boundary crossing is expressed. There is no compact construction that allows for simultaneous attention to the owl's sudden appearance, its emergence across a boundary, and its manner of movement. As a consequence, it seems that V-language speakers opt to encode change of state, i.e., in/out or nonvisible/visible.

S-languages, by contrast, do provide such compact expressions, as shown in the examples in (5). Why, then, is the manner option used relatively infrequently in the Germanic languages (Dutch 17%, German 18%, English 32%)? I suggest that a focus on the owl's emergence predominates in these languages as well. The most common expression is 'come out', thus taking the viewer's perspective and predicating appearance using a readily available expression. In order to add manner to the perspective, speakers of Dutch, German, and English are in the same position as speakers of V-languages: they would require a heavier construction, such as 'come flying out'. Instead, there is a tendency to pick one of two options: 'fly/pop/jump out' or 'come out'. Note that these two options are equally processible: Each has a main verb plus a path particle, and are apparently easily accessible.

Russian presents a different lexicalization pattern. There is no independent verb that is the equivalent of 'come'; rather, a deictic prefix on a motion verb is needed for the expression of motion towards the speaker's perspective. All path particles (satellites) are also verb prefixes in Slavic languages, and prefixes can't be stacked; so there is no way to combine 'come' and 'out' with one verb, as in Germanic. One has to choose between *pri-letet* 'come-fly' and *vy-letet* 'out-fly'. The deictic option (*pri-letet*) was taken by 11% of the Russian narrators of the owl scene; the remaining 89% focused on the owl's emergence, using *vy-* with verbs meaning 'fly' (*vy-letet*), 'jump' (*vy-skocit*), and 'crawl' (*vy-lezit*). Again, narrators chose a simple construction with a single verb. Note, however, that both options use a manner verb—hence the 100% of Russian manner verb choices in Figure 1. Thus it is not satellite-framing alone that accounts for the rate of use of manner verbs; morphosyntactic structure also plays a role in determining rhetorical style.

### 2.3. Serial-verb languages

Mandarin Chinese has been categorized as an S-language by Talmy. It is a serial-verb language in which each verb in the series is morphologically unmarked and monosyllabic. Talmy considers the manner verb to be the main verb and the path verb to be a satellite, because path verbs often do not function as full verbs and because there is a small, closed set of path verbs. However, the two elements in (5e) are both verbs: *fei1 chu1* 'fly exit'. Such constructions are highly frequent and are probably easy to process; it is not surprising that they are used by 40% of Mandarin speakers to narrate the owl's emergence. However, there is a clear developmental trend: whereas narrators of all ages use a path verb, path–manner combinations are never used by 3-year-olds, are used by 22% of children aged 4–7, and by 73% of 9-year-olds and adults. Similarly, in Thai, only at age 11 do children use path–manner combinations at a comparable rate to adults (83% for 11-year-olds, 86% for adults). There is apparently a cost to adding manner information, especially for the younger narrators. However, deixis seems to be more closely tied to conceptions of path. This is suggested by the fact that most speakers add a final 'come' verb, filling a standard serial-verb construction type, as in Mandarin *fei1 chu1 lai2* 'fly exit toward.speaker'.

The Mandarin and Thai data raise a problem for Talmy's treatment of path verbs as satellites in serial-verb languages. In these languages both 'exit' alone, and 'exit come', are options used in the owl scene; that is, path can be expressed by *verbs*. These findings make it difficult to follow Talmy in placing such languages in the S-language category.<sup>8</sup> Slobin and Hoiting (1994) proposed to treat such languages as "complex verb-framed languages": verb-framed because path is expressed by an independent verb, and complex because the serial-verb construction functions as a sort of compound main verb in a clause, with no division between finite and nonfinite forms as in "standard" verb-framed languages, which require constructions such as 'exit flying'. That is, manner is not syntactically subordinated to path in serial-verb languages. Because the path verbs can occur alone, they cannot be regarded as satellites, which are verb particles and affixes that do not occur alone. But because manner verbs occur freely with boundary-crossing events, as in the owl scene, these languages do not fully pattern with V-languages either. At present, it may be most appropriate to treat serial-verb languages as a third typological category with regard to motion events. This is the proposal of Zlatev and Yangklang (2003); and Ameka and Essegbey make the same proposal for West-African languages, based on a large set of criteria:

When the properties are tallied, we find that serialising languages share more properties with S-languages than with ...V-languages ... while still possessing a unique property. What this shows is that they cannot be said to belong to either type. Instead, they appear to belong to a class of their own. (Ameka & Essegbey, in press)

I agree, and propose later in the chapter that a third type be added, *Equipollently-framed languages*, to include serial-verb languages and other types of languages in which both manner and path are expressed by "equipollent" elements—that is, elements that are equal in formal linguistic terms, and appear to be equal in force or significance. (Furthermore, I will suggest that the facts of manner expression are better dealt with by placing languages on a cline of manner salience, rather than placing them into dichotomized or trichotomized typologies.)

#### **2.4. Attention to manner: Narrative style**

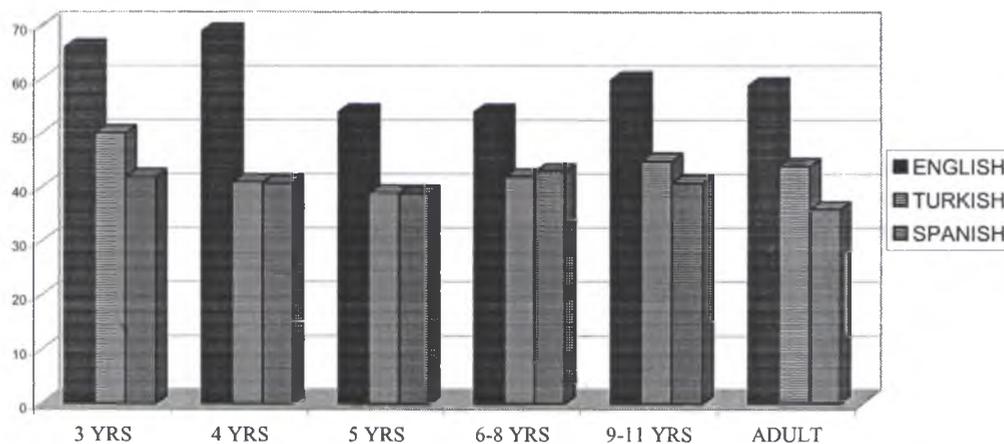
Analysis of the emergence of the owl has proven to be fruitful in revealing a collection of factors that can influence narrative style. The requirement that a path verb be used to express boundary crossing in V-languages does not block the expression of manner in a subordinate construction with a path verb, such as 'exit flying', but the added processing load apparently militates against the choice of that option unless manner is at issue. That is, the speakers of the five V-languages in this sample *could have* said such things as 'the owl exited flying', but they chose not too. On the other hand, although S-languages provide speakers with a compact way of saying 'the owl flew out', choice of this option is determined by competing factors. In a scene such as this one, where one can focus on either the owl's exit from the hole or the owl's moving toward the narrator's perspective, speakers of Germanic languages pick one option or the other, apparently because either a deictic verb or a manner verb can be used in the standard construction: *come out* or *fly out*. In Slavic languages, by contrast, with no independent 'come' verb, and no way of stacking verb prefixes, both options push for a manner verb: 'come-fly' or 'out-fly'. And in serial-verb languages, where both path and manner are of equal morphosyntactic weight, older speakers tend to use both, whereas

<sup>8</sup> Talmy suggests that path verbs in serial-verb languages often show evidence of grammaticizing into path satellites—that is, losing some features of independent verbs. This is certainly an important diachronic path that can lead from one language type to another. But the frog story data do not make it possible to unequivocally categorize languages like Mandarin and Thai as either S- or V-languages. A Chinese linguist also points out that path verbs are not strictly comparable to English verb particles: "However, different from English, these satellites in Chinese can also function as independent verbs themselves. When such a verb is connected to another verb, a verbal construction called *lián dòng shì* 'serial verb construction' is formed" (Gao, 2001, p. 62).

younger speakers begin with more attention to path; and speakers of all ages also tend to add an additional verb for deixis. In sum, lexicalization patterns interact with ease of processing and available construction types in determining narrative style—for this simple scene, as well as across the frog story and other types of narrative.

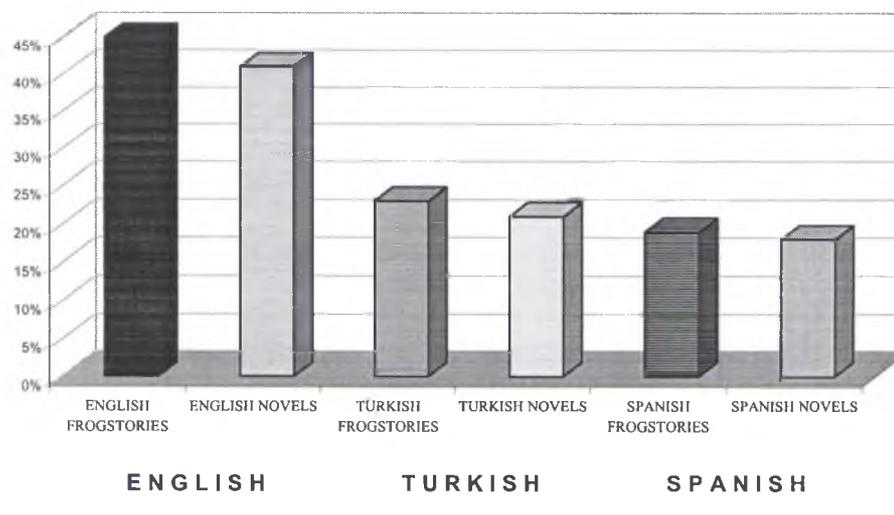
As a demonstration of the overall degree of attention to manner in a language, Figure 2 compares English with two different sorts of V-languages, Turkish and Spanish. The figure is based on descriptions of *all* of the many sorts of motion events in the frog story. The data show, for each age group, the percentage of motion events that were described by a manner verb—either alone or in combination with a path verb, and including transitive and intransitive verbs of motion. Two things are striking in these data: (1) Turkish and Spanish are roughly equal in their use of manner verbs whereas English is higher; (2) these patterns are true at all ages. That is, the lexical encoding of manner is a stable characteristic of a language, acquired early and maintained through life. (In a larger sample, Hebrew patterns like Turkish and Spanish, and German, Dutch, Russian, and Mandarin pattern like English [Özçalışkan & Slobin, 1999].)

Figure 2. Percentage of Motion Events Described by Manner-of-Motion Verbs (Transitive+Intransitive Tokens) in Frogstories



The crosslinguistic patterns are typical of creative fiction as well as picture-elicited narratives. Figure 3 compares frog stories with novels in the same three languages—English, Turkish, and Spanish—choosing adult frog stories and intransitive motion verbs for comparison. It is clear that the narrative styles that are revealed in oral narratives elicited by a picture storybook are the same as those produced by creative writers. Thus, adult frog stories appear to provide a good sample of the overall narrative style of a language.

Figure 3. Percentage of Motion Events Described by Manner-of-Motion Verbs (Intransitive Tokens) in Adult Frog Stories and Novels



### 2.5. Conflation patterns

Most of the discussion in the literature on motion events contrasts pure path verbs, such as ‘exit’ and ‘ascend,’ with pure manner verbs, such as ‘run’ and ‘crawl’. Using such verbs, it is possible to delineate the sorts of typological contrasts we have been considering so far. Talmy’s typology is based on the most characteristic and frequent lexicalization pattern used by a language—that is, V-languages tend to use path verbs with subordinate manner expressions and S-languages tend to use manner verbs with associated path forms. However, languages also have minor patterns that may play a role in narrative style. With regard to the domain of motion, some verbs conflate path and manner. An example of such a verb in the frog story is Turkish *tırmanmak* ‘climb’. Unlike English *climb*, which is neutral with regard to path (one can “climb down from a tree” or “climb out on a branch,” for example), the Turkish verb is used only for upward motion in a grasping manner. (The same is true of equivalent ‘climb’ verbs in other V-languages.) The prelude to the owl scene in Turkish allows us to compare a simple path verb, *çıkma* ‘ascend’, with a manner-path verb, *tırmanmak* ‘climb’ (Özçalışkan & Slobin, 2000a). If ease of processing is a major factor contributing to narrative style, Turkish speakers should describe the boy’s ascent of the tree with either verb and should avoid the complex subordinated form, *tırmanarak çıkma* ‘by.climbing ascend’. This is, in fact, what they did. None of the Turkish narrators used the ‘climbing ascend’ construction; thus they opted for ease of processing, using a construction with a single verb. However, Turkish speakers also operate with an habitual narrative style in which path verbs serve as main verbs. Whereas 88% of English-speaking narrators used the verb *climb* in this scene, 45% of the Turks described the ascent of the boy as ‘ascend’ and 55% used ‘climb’.<sup>9</sup> It is significant that Turkish-speakers attended to combined path and manner about half of the time, picking a readily available lexical item that conflates the two dimensions; nevertheless, the habitual narrative style of attending to path still plays a role, since ‘ascend’ was also a frequent choice. It seems, then, that availability of a manner–path

<sup>9</sup> A small number of younger English-speaking children used the verbs *go* and *get* with path particles (*go up/up in/up into the tree, get up on the tree*).

verb for a particular event type can lead V-language speakers to pay more attention to manner than they usually do, yet still less than S-language speakers. Linguistic habits are strong.

## 2.6. *Beyond lexicon and morphology*

The distinction between verb- and satellite-framed languages is based on lexicalization patterns—in the case of motion events, the lexicalization of path as main verb or satellite. We have seen that the morphological expression of path elements also plays a role, comparing Germanic separable particles, Slavic prefixes, and verbs in serial-verb constructions. And minor conflation patterns, such as manner–path verbs, can blur the overall typological distinction when considering the encoding of specific events. However, more is involved in discourse organization than lexicon and morphology. Here we consider several additional dimensions: adverbial and phrasal expressions of manner outside of verbs, ideophones, and gesture.

### 2.6.1. *Alternative descriptions of manner*

Perhaps V-language narratives are rich in descriptions of manner of motion, but we have been looking in the wrong place. Speakers of Turkish, Spanish, and Hebrew avoid subordinate constructions such as ‘exit flying’, but they may use various adverbial and other descriptions to add information about such dimensions as suddenness, rate, force dynamics, inner state, terrain, and so forth—that is, information about factors that suggest manner of movement. Özçalışkan and Slobin (in press) examined alternative manner expressions in English and Turkish frog stories, as well as novels. English- and Turkish-speaking narrators use such expressions at comparable rates, but for different purposes. In Turkish, 61% of the additions occur with *non-manner* verbs, indicating that they are often used to “compensate” for the absence of manner in path constructions. For example, a Turkish adult adds ‘silently’ in describing how the boy ‘approaches’ the tree trunk at the end of the frog story:

- (6) *Bir ağaç kütüğüne sessizce yaklaştı.*  
 ‘(He) *silently* approached a tree trunk.’

By contrast, in English 73% of additions qualify *manner* verbs, thereby augmenting attention to manner. For example, an Australian English-speaking adult has already chosen a highly descriptive manner verb, *slink*, but uses adverbs to further elaborate the manner of motion:

- (7) *Fido very very quietly slunk out of the water.*

Apparently, English-speaking narrators are often not satisfied with their already rich lexicon of manner verbs, and add more richness by other means. In addition to qualifying manner of movement, English frog stories and novels provide relatively more details of protagonists’ inner states and conditions of the terrain—that is, information that suggests nuances of manner. In sum, even when considering alternative expressions of manner, S-languages texts still show relatively greater attention to manner, both in quantitative and qualitative terms.

### 2.6.2. *Posture and manner*

Brown (2003) presents data from Tzeltal, a Mayan language with a very large lexicon of *positionals*, that is, “verb roots which convey POSITION of animate or inanimate things (in stasis, or concurrent-with or as-a-result-of motion).” Positionals are acquired early, and play a role in Tzeltal frog stories which is, in some ways, comparable to manner verbs in other languages. For example, *xpejkunaj* indicates a low-crouching posture. Combined with *xben* ‘walk’ it conveys a limping manner of movement:

- (8) *xpejkunaj xben hilel*  
 ‘He [dog] looks like he’s low-crouching walking.’

In other instances, by describing a postural endstate, a positional can suggest manner; e.g.:

- (9) *jipot jawal ta lum*  
 ‘He [boy] has been thrown **lying\_face-upwards\_spread-eagled** to the ground.’

Brown suggests that: “one reason for the proliferation of POSITION in frog stories is to provide some of the graphic visual detail for which, in satellite-framed languages, manner of motion verbs are used.” Again, it seems necessary to expand the binary typology. Tzeltal seems to be a V-language, with its reliance on path verbs and a small lexicon of manner verbs, but positionals add another expressive dimension, not found in the V-languages we have been considering. (Tzeltal also has directional morphemes, discussed below with regard to path expressions.)

### 2.6.3. Ideophones expressing manner

There are occasional examples, in all of the languages under study, of the use of sound symbolism to heighten the drama of the frog story. These are found especially in the culminating fall from the cliff into the water:

- (10) (a) *Splash! They both fall into the water.* (English adult)  
 (b) *Birlikte cumbadanak bir suya düşüyorlar.*  
 ‘Together *cumbadanak* they fall into some water!’ (Turkish adult)  
 (c) *¡Zas! Se cayeron al suelo.*  
 ‘*Zas!* They fell to the ground.’ (Spanish adult)

Ibarretxe-Antuñano (2003) pays special attention to sound symbolism in Basque, where it plays a role in describing manners of motion. Basque is a V-language with a large lexicon of ideophones that serve as “movement imitatives”; in the frog story speakers use *plisti-plasti* ‘waddle’ and *taka-taka* ‘walk with small and short steps, creep, crawl’. In addition, there are ideophones expressing acoustic dimensions, inner states, and so forth, which can serve to suggest manner of motion. The following example parallels the use of adverbs in (6) and (7)—but note that there is no verb of motion; rather, the reduplicated ideophone indicates quiet walking:

- (11) *eta han isil-isilik hara nola hasi dira lurretik*  
 and there *silence-silence* there how start:PERF AUX ground:ABL  
 ‘and there they go, they start [to walk] very quietly along the ground’

Ideophones are widely attested in the languages of the world (Voeltz & Kilian-Hatz, 2001), especially in West Africa, East Asia, and Southeast Asia. Clearly, they provide an important option for expressing manner of motion, though they are not highly frequent in the languages of the frog story sample considered here. Such forms have been well described for another V-language, Japanese (“mimetics”), where they appear to function as in Basque (Hamano, 1998; Kita, 1997). For example (Hamano, 1998, p. 148):

- (12) *doya-doya haiQ-te-kuru*  
 come.in-GERUND-come  
 ‘a group of people came in noisily’

Similar examples are found in some Turkish frog stories, e.g.:

- (13) *suyun içine*                      *gümbür gümbür düşüyor*  
 water's interior:DATIVE                      fall  
 '(he) falls splash into the water' (Turkish adult)

Word order may play a role, too, in favoring the use of ideophones. Basque, Japanese, and Turkish are all verb-final languages, and in all three, the ideophone occurs early in the sentence. Processing strategies in such languages require the accumulation of information about participants and locations while waiting for the final predicate to tie the information together. This “rightward slant” in processing might favor the development of ideophones or mimetics, placed early in the sentence. That is, information about manner in the form of ideophones might easily fit into an online packaging strategy. Ideophones also appear to be frequent in serial-verb languages, where they may fit in with strategies for accumulating verbs into larger meaning units. Ease of processing may thus play a role in facilitating attention to manner by means of sound symbolism, just as it apparently plays a role in S-languages by means of a main-verb slot for manner verbs.

It remains to be determined whether recourse to sound symbolism allows a language to elaborate the domain of manner of motion in ways that parallel the large lexicons of manner verbs in the S-languages we have examined. Examples from various languages suggest that ideophones can provide a rich lexicon of manner distinctions, e.g.: *gulukudu* ‘rush in headlong’ (Zulu), *minyamina* ‘stealthily’ (Ewe), *kitikiti* ‘at-a-stomp’ (Emai), *widawid* ‘swinging the arms while walking’ (Ilocano), *badi badi* ‘waddling’ (Turkish), *dengdeng* ‘tramping’ (Mandarin), *tyo^ko-maka* ‘moving around in small steps’ (Japanese).<sup>10</sup> The availability of ideophones thus adds a further revision to the V-language/S-language typology, at least with regard to the expression of manner of motion.

#### 2.6.4. Gestural depictions of manner

Ibarretxe-Antuñano finds that ideophones in Basque are often accompanied by gestures; Kita (personal communication) reports the same for Japanese. In (11), above, there is no motion verb at all, but the ideophone *isil isilik*, indicating quietness, is followed by gestures that depict both manner (“walking” movements of the hands) and path (moving away from speaker). Manner gestures also occur together with path verbs. For example, in the owl scene, a Basque adult said *atera* ‘exit’ while flapping his hands on either side of his head to depict flying.

We do not have systematic data on manner gestures in frog story narrations, but David McNeill and his colleagues (McNeill & Duncan, 2000; Özyürek & Kita, 1999) have studied co-speech gestures in narratives in several languages, elicited by an animated cartoon (*Canary Row*, with Tweety the bird and Sylvester the cat). English-speakers have the option of augmenting a manner verb with gesture. When they do so, they either provide a gesture that combines path and manner, thus augmenting the lexical expression of manner, or they gesture path alone. There are almost no instances of a path verb accompanied by a manner gesture. By contrast, in three V-languages—Spanish, Turkish, and Japanese—there are frequent occurrences of gestures that depict only path or only manner, as well as path–manner confluents. Manner gestures accompany path verbs as well as manner verbs. The findings suggest that V-language speakers conceive of manner as a separate element—a sort of

<sup>10</sup> Sources: Zulu (Msimang & Poulos, 2001), Ewe (Ameka, 2001), Emai (Schaefer, 2001), Ilocano (Rubino, 2001), Turkish (Jendraschek, 2002), Mandarin (Ying, 1988), Japanese (Hamano, 1998).

activity—that can “augment” directed motion, whereas S-language speakers conceive of manner as an inherent component of directed motion (see Slobin, 2000).<sup>11</sup>

When more co-speech data are available, we may find that V-language speakers provide gestural manner information at comparable rates to the lexical manner information provided by S-language speakers.<sup>12</sup> If so, yet another factor must be considered in predicting discourse patterns from the typology of lexicalization patterns. However, there are several important ways in which gesture and lexicon provide different tasks for language use and acquisition. The kind of information provided by gesture is analog and depictive, and does not require the speaker to attend to the sorts of categorical distinctions provided by lexical items (e.g., *roll*, *bounce*, *bob*, *tumble*, *skid*, *bump*, etc.). The categorical contrasts encoded by lexical items are language-specific and have to be learned; gestural depiction, by contrast, is much less categorical and conventional. Furthermore, if gestures do provide “compensation” for lexical gaps and for heavy constructions, this option is only available for *oral* narrative—that is, for speaking. The considerable differences between written texts in the two language types still remains (Slobin, 1996, 1997). There are also prosodic expressions of manner, which have not yet been explored in detail. Written texts are poor in the representation of prosodic marking of force dynamics by such devices as shifts in volume, rate, and pitch. Gesture and prosody are features of oral, rather than written language. Typologies tend to be developed on the basis of written materials—sample sentences, texts, transcriptions of speech. It may well be that the two types of language production require different sorts of typological accounts.<sup>13</sup>

## 2.7. Beyond spoken language

Galvan and Taub (2003; also see Taub & Galvan, 2000) compare frog stories in English and American Sign Language (ASL). Because space is used to represent space in signed languages, motion verbs always move from one place to another—that is, the verb is

<sup>11</sup> Full data have not been published on the *Canary Row* studies. From published examples, it would appear that morphosyntactic factors play a role in the gesture patterns of the three V-languages. Turkish and Japanese are SOV languages in which manner precedes path in subordinated constructions, e.g., ‘rolling descend’ in the *Canary Row* examples. Co-speech gestures tend to accompany the two verbs in this order, resulting in separate gestures for manner and path, sometimes followed by a manner–path conflated gesture. Spanish is an SVO language in which the order for phrasal verbs is the opposite, e.g., ‘descend rolling’. In the frog stories, such phrasal verbs almost never occurred, and data on phrasal verbs are not available for *Canary Row*. The published examples suggest that the Spanish manner and manner–path gestures tend to accompany path verbs alone, e.g. ‘descend’. (English gestures are timed to occur with verb–satellite constructions such as *roll down*) Adequate data are needed in order to determine when co-speech gestures in V-languages accompany semantically corresponding verbs and when they add information that is not lexically specified; that is, statistics are needed in order to compare manner gestures that accompany path verbs with those that accompany manner verbs. (See van Hoof, 2000, for data on co-speech gesture in frog stories in English, Dutch, and Spanish, as well as English as a second language in a small sample of Dutch and Spanish speakers. In van Hoof’s data, manner gestures are rare but they almost always accompany manner verbs for all of the groups of subjects. That is, gesture does not augment attention to manner for these S- and V-language speakers.)

<sup>12</sup> Taub, Piñar, and Galvan (2002) have analyzed one scene from *Canary Row* in English and Spanish, attending to both lexical and gestural encoding of information. There are no statistical differences in a small sample, but the directions suggest somewhat greater attention to manner in English. In terms of number of “conceptual elements,” English speakers used slightly more lexical elements to express manner (3.58 vs. 3.17) and slightly more gestural elements as well (2.58 vs. 2.33). Combining speech and gesture, English speakers provided 4.5 conceptual elements of manner, compared with 4.0 in Spanish.

<sup>13</sup> In addition, as Berman (2003) and Strömqvist, Nordqvist, and Wengelin (2003) point out, children face new problems in learning how to produce written narratives.

inherently a path verb. However, due to the nature of the manual modality, the moving hand can also represent the type of figure as well as manner of motion. For example, a downward V-handshape indicates a two-legged being and wiggling fingers indicate moving legs. In addition, independent manner verbs, using the whole body, can express such notions as running, walking heavily, and so forth, while the face can indicate force dynamics and affect. Also, as in Tzeltal, the configuration and orientation of the hand can convey the posture and final orientation of the moving figure. Slobin and Hoiting (1994) had proposed that signed languages are “complex verb-framed languages”: verb-framed because of the use of path verbs; complex because of the simultaneity of path, figure, and manner, as well as the serialization of manner and path verbs. Galvan and Taub provide detailed evidence for a high degree of simultaneity in ASL frog stories, along with discourse-based patterns that are reflected in detailed attention to both path and ground elements. They also document what appears to be a boundary-crossing constraint in ASL. They suggest:

[W]e might conclude that if ASL is a verb-framed language, it is highly atypical. Pending future studies, we maintain neutrality on this issue—it may even be the case that we need to expand Talmy’s typology to accommodate languages which can conflate Path, Manner, and Figure into a single verb form.

It seems appropriate to me to accept Galvan and Taub’s suggestion. The visual modality of hands, face, and body offers possibilities that are quite different from the acoustic modality of the voice or the combined modality of speech and gesture.

### **2.8. Codability and habitual expression**

The term *codability* sums up the various factors of accessibility or ease of processing examined above. Various factors make a concept such as manner of motion relatively more codable:

- expression by a finite rather than nonfinite verb,
- expression by a high frequency rather than low frequency lexical item,
- expression by a single word rather than a phrase or clause.

There is a synergy between these factors in S-languages which apparently leads speakers of those languages to pay special attention to manner. This is a domain that receives *habitual* expression—a domain that speakers and listeners expect to play a role in descriptions of motion events. Over time, such languages add more lexical items to the domain. English, for example, has gone on innovating manner of motion verbs century by century. For example, the following intransitive verbs of goal-directed human motion were added in the nineteenth century (*Oxford English Dictionary*): *barge, career, clomp, cruise, dawdle, dodder, drag oneself, drift, flop, gambol, goose-step, hike, hustle, leapfrog, lunge, lurch, meander, mosey, pounce, promenade, race, sashay, scurry, skedaddle, skitter, slither, slog, slosh, smash, sprint, stampede, tromp, twist, waltz, wiggle, worm, zip*. As a consequence, the semantic space of manner of motion in S-languages becomes more saturated, and more finegrained distinctions come to be made. Learners are faced with the task of attending to the details of motion that are relevant to the semantic space, and they end up with an increasingly differentiated conceptualization of manner. The same issues of habitual use and acquisition are probably found in languages with a rich lexicon of manner ideophones.

All of these factors, of course, vary in degree from language to language; therefore patterns of discourse and conceptualization can’t be predicted from a binary typology alone. With regard to Talmy’s typology, however, I propose that verb-framing does not “suppress” attention to manner: manner of motion is too important for human beings to ignore. That is, speakers of all languages talk about manner when it is especially important. However, people are led to focus on and elaborate manner if they use a language with high codability this domain, as provided by manner verbs in S-languages and serial-verb languages, and by

manner ideophones (apparently in verb-final V-languages and serial-verb languages). As I have proposed elsewhere (Slobin, 2000, 2002), a highly codable domain plays a major role in thinking for speaking, with possible consequences for mental representation. To quote from Frog I (Berman and Slobin, 1994, p. 640): “We have proposed ... that frequent use of forms directs attention to their functions, perhaps even making those functions (semantic and discursive) especially salient on the conceptual level. That is, by accessing a form frequently, one is also directed to the conceptual content expressed by that form.”

### 3. PATH OF MOTION

As noted at the beginning of the section on manner of motion, Talmy’s typology can be approached from two angles, focusing on the means for expressing manner or path. It is path, however, that forms the core of the approach: in V-languages path conflates with motion verbs and in S-languages path occurs as a “satellite” to a motion verb. Because path is an obligatory component of motion event expressions, we can’t compare languages in terms of the accessibility of path as a category: without a path verb or satellite or other path element, there is no motion event. However, languages differ with regard to the canonical segmentation of paths as well as the relative ease of building complex path constructions. They also present an array of path elements going beyond the division into verb versus satellite. These differences are only partially determined by the Talmian typology.

#### 3.1. Analysis and packaging of path components

The events in the frog story pose two kinds of issues with regard to the expression of path: (1) segmentation of an event into path components and (2) distribution of path components in clauses of a narrative episode. The first issue is concerned with the degree of granularity of an event description, that is, how many sub-trajectories combine into an overall trajectory. Compare, for example, two hypothetical versions of the frog’s escape at the beginning of the story, a schematic summary in (14) and an elaborated path in (15):

(14) *the frog escaped*

(15) *the frog exited the jar, passed through the window, and entered the woods*

The second issue is concerned with tightness of packaging. For example, the version in (15) could be compacted as:

(16) *the frog crawled out of the jar and through the window into the woods*

These two issues are related. Note that (15) uses three separate path verbs: *exit*, *pass*, *enter*. This is the required pattern in V-languages, because each of the events is a boundary-crossing event. (In fact, the constraint applies *whenever* a change of path direction occurs, e.g., *approach and ascend the tree* versus *crawl toward and up the tree*.)<sup>14</sup> By contrast, (16) uses a single manner verb, *crawl*, with three path satellites: *out*, *through*, *in*. This pattern is

<sup>14</sup> Verb-gapping is required in the English construction in (16), but this is probably simpler, in processing terms, than clauses with two distinct verbs in V-language equivalents. Bohnemeyer (in press) has proposed a *Unique Vector Constraint* that apparently applies to both types of languages: “All direction specifications in a single simple clause referring to a single continuous motion event must denote the same ‘unbounded’ direction vector, i.e. the same direction vector...” Accordingly, *crawl toward and up the tree* must be expressed by two simple clauses in English as well as in V-languages. Nevertheless, gapping of the verb in the second clause, as well as the possibility of using a single manner verb for both path segments, is a special characteristic of (some) S-languages, and thereby contributes to manner salience in those languages.

typical of S-languages (and is another factor contributing to the more frequent use of manner verbs in those languages). The following examples are not unusual in S-languages, though they are exceptionally rare in V-languages (in frog stories as well as novels):

- (17) *they decided to walk outside the house down to the back of the garden out into the bit of a forest there* (Australian adult)
- (18) *plötzlich fällt der Hund aus dem Fenster von dem Fensterbrett herunter*  
'suddenly falls the dog out of the window down hither from the windowsill'  
(German adult)
- (19) *iz-za kamnja olen' vy-skočil*  
'from-behind (a) rock (a) deer out-jumped' (Russian adult)

An earlier study (Slobin, 1997), examined the "fall from the cliff" episode, which has a number of potential path components: moving to the cliff, stopping at the cliff, throwing the boy and dog down, falling of the boy and dog into the water. The proposal was "that speakers of S-languages are more likely to break up the event into a larger number of components, based on 'narrative habits' of compacting several path components in a single clause. Speakers of V-languages, by contrast, have developed a narrative style that makes more sparing use of individual motion verbs to encode path components" (p. 448). This proposal was supported across a large number of languages, as shown in Table 1.<sup>15</sup> Speakers of S-languages tend to mention more path segments than speakers of V-languages (about three versus two), and a greater proportion of S-language speakers do so (about 80% versus 30%).

Table 1. Path Segmentation in the Scene of the Fall from the Cliff  
(adult narrators)

S-LANGUAGES			V-LANGUAGES		
Languages	Average number of event segments	Percentage of narrators mentioning 3 segments	Languages	Average number of event segments	Percentage of narrators mentioning 3 segments
Germanic (Dutch, English, German, Icelandic, Swedish)	3.0	86%	Romance (French, Portuguese, Spanish)	2.1	30%
Slavic (Polish, Russian, Serbo-Croatian)	2.8	76%	Semitic (Hebrew)	2.0	30%

<sup>15</sup> The data come from ten adult frog stories in each of the languages. The research was carried out a workshop supported by the National Science Foundation held at the Linguistic Institute of the Linguistic Society of America at the University of New Mexico, Albuquerque, July 1995. Participants involved in the data analysis were: Jeroen Aarssen, Ayhan Aksu-Koç, Michael Bamberg, Edith Bavin, Ruth Berman, Petra Bos, Nancy Budwig, Harriet Jisa, Catalina Johnson Herrera, Sophie Kern, Åsa Nordqvist, Barbara Pearson, Hrafnhildur Ragnarsdóttir, Judy Reilly, Svenka Savić, Magdalena Smoczyńska, Anat Stavans, Sabine Stoll, Sven Strömquist, and Ludo Verhoeven.

### 3.2. Typological factors

Apparently language typology contributes to a typical level of event granularity. The determining factor seems to be the heavy use of a series of separate clauses in V-languages, as compared to the accumulation of path particles and prepositional phrases with a single verb in S-languages. In footnote 9 it was mentioned that some English-speaking preschoolers, instead of using the verb *climb* in the owl scene, used *go* and *get*. What is striking, though, is that these light verbs also occurred with strings of path markers: *go up into the tree*, *get up on the tree*, and so forth. That is, English-speaking children, at early ages, are disposed to describe complex paths, and in compact constructions. Across ages, the collection of complex locative elements in English exceeds the possibilities provided by path verbs in V-languages. Table 2 shows the range of combinations that occur (and almost all of them are provided by children). Comparable data can be found in Dutch, German, and Russian; see also the “constellations of satellites” reported for Icelandic and Swedish by Ragnarsdóttir and Strömqvist (2003).

Table 2. Combinations of Path Satellites and Prepositional Phrases in English Frog stories (“N” = noun)

SATELLITE	PREPOSITIONAL PHRASE
down	from N, in(to) N, on(to) N, off N, out of N, over N, through N, to N
off	after N, into N, onto N, over N, through N, to N
out	at N, from N, in(to) N, onto N, the back of N, through N, to N
over	in(to) N, out of N, to N, toward N
up	from N, in(to) N, out of N, off N, on top of N, on(to) N, over N, toward N, to N
	from behind N, from out N, from over N

However, beyond these patterns—as in the discussion of manner of motion—it is necessary to consider factors beyond Talmian typology in accounting for patterns of narrative style.

### 3.3. Language-specific constraints

Brown (2003) reports that path descriptions in Tzeltal cannot include source and goal in the same clause. Bohnemeyer (in press) reports the same for Yukatek, another Mayan language. The only way to say, for example, that the boy went from the tree to the rock would be, ‘The boy, he was at the tree, and then he left, and then he arrived at the rock’. Brown gives frog story examples that specify either source (e.g., ‘he fell down from the head of the deer’) or goal (e.g., ‘they are spread-eagled arriving-there at the water’), but not both. Although it is possible to mention source and goal in successive clauses, this is rarely done (Brown, personal communication), perhaps due to processing constraints, though cultural factors may be more important, as discussed below.

### 3.4. Morphosyntactic factors

#### 3.4.1. Locative casemarking

Basque is a V-language, as determined by its lexicon of path verbs. However, as discussed by Ibarretxe-Antuñano (2003), Basque frog stories tend to mention both source and goal in path descriptions. A morphological factor seems to play a role here. The language provides a rich set of morphemes encoding features of location and movement: five locational cases that apply to nouns as well as thirty or more postpositions that also take locative inflections. We can, again, appeal to ease of processing as a determining factor: Basque morphology makes it possible to specify path details in a compact fashion. In addition, a

predisposition to omit verbs puts greater weight on the nominal encoding of path segments. These factors lead Ibarretxe-Antuñano to propose a “complete path hypothesis” for Basque: “the tendency to linguistically express in the same clause both the source and goal of a translational motion, even in cases where one of the components is pleonastic.” Thus, there is a “narrative habit” that favors path elaboration. Basque, then, falls toward the S-language side of Table 1. For example, in the cliff scene, ablative and allative casemarkers indicate path segments:

- (20) *danak amildegiti-kan beh-era erori zian ibai bat-era*  
 all.ABSOLUTIVE cliff-ABLATIVE:LOCATIVE below-ALLATIVE  
 fall:PERFECTIVE AUX river one-ALLATIVE  
 ‘All of them fell **from** the cliff **down to** the river.’

In the following example, there is no verb at all; path is indicated by the allative case on a noun meaning ‘outside’:

- (21) *eta zas! sagu kanp-ora*  
 and zas! mouse outside-ALLATIVE  
 ‘And suddenly a mouse [comes] **out**.’

Aksu-Koç (1994) has reported similar patterns in Turkish, where narrators make use of locative inflections and directional adverbs to present several path segments in compact fashion; for example:

- (22) *geyik bir tane uçurumun kenarına geliyor ve uçurumun ucunda*  
*çocuğu başın-dan aşağı atıyor*  
 deer one item cliff’s side-DATIVE comes and cliff’s side-LOCATIVE  
 boy-ACCUSATIVE its:head-ABLATIVE **downwards** throws  
 ‘(The) deer comes to the side of a cliff and at the edge of the cliff throws the boy **down from** his head.’ (Turkish adult)

In sum, easily processed construction types can contribute to path analysis and packaging in both types of languages.

### 3.4.2. Directional morphemes

Mayan languages are characterized by the use of directional morphemes that combine with path verbs to provide more specific path information, as well as with manner verbs (reported for Tzotzil by Bowerman et al., 1995). These morphemes are derived from path verbs, but function in a fashion that may be compared to path satellites in S-languages. They have meanings such as ‘away from’, ‘toward’, ‘up’, ‘down’, ‘in’, ‘out’, and so forth. Directionals are used by Tzeltal children for path elaboration, as in the following example from Brown’s chapter (2003):

- (23) *ya k’an mook bel sk’ok tal i ala tz’i’i*  
 ‘the little dog want to go **up awaywards** to pick it [beehive] **towards him**’

Tzeltal can be classed as a V-language because path is lexicalized by main verbs, but the availability of directionals provides “an S-language flavor.”

### 3.5. Cultural factors

David Wilkins (2003) adds cultural and ecological dimensions to path elaboration. In his Australian frog stories in Arrernte, like Edith Bavin’s (2003) Warlpiri stories, there is great attention to path details. This is apparently based on the importance of journeys in Australian