

# Essays on Language Function and Language Type

*Dedicated to T. Givón*

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## Mind, Code, and Text\*

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The problem of inter-linguistic translation ... springs from the fact that the great bulk of typological differences between languages involve the way in which they map their semantic structures onto surface expression. ... In terms of typological characterisation of a language, syntax and lexicon constitute a single complex whose two components define each other (Givón 1978: 235).

In the introduction to his book, *Mind, Code and Context*, Talmy Givón presents some guiding principles of pragmatics (1989: 2):

*Picture and frame:* "A picture is not fully specified unless its *frame* is also specified."

*Meaning and context:* "The *meaning* of an expression cannot be fully understood without understanding the *context* in which the expression is used."

In this chapter I explore the notion of "frame" as the typological framework of the language in which an event is encoded — the *code*; and explore the notion of "context" as the type of *text* that results from the use of a particular code. Preliminary data from written and oral narratives and from adult-child discourse suggest that some aspects of *mind* can be understood in terms of relations between code and text. As a major research tool, I will make use of translation, continuing Givón's longstanding interest in this problem, as reflected in the epigraph drawn from his early paper, "Universal grammar, lexical structure and translatability" (1978). In the course of the exploration, it will become evident that syntax, lexicon, and text co-determine each other.

To set the stage, consider the following sentence from a novel written in English: "I ran out the kitchen door, past the animal pens, towards Jasón's house" (Anaya 1972: 9–10). The verb, *run*, encodes a particular manner of



By contrast, the translations into Romance languages require the use of several different directional verbs to trace out this path. Note, for example, the "un-compacting" of path segments into separate verbs in French:

- (2) c. French translation: *Il continua d'avancer au hasard, sortit du haut vallon, en franchit le bord et descendit la pente au-delà...*  
 'He continued to *advance* haphazardly, *exited from* the high small valley, *crossed* the edge of it and *descended* the slope beyond...'

When moving from a V-language into an S-language, the opposite occurs — namely, "compacting" of directional verbs into path expressions associated with a single verb. Example (3) is drawn from a modern Turkish novella. Although Turkish is not a Romance language, it is of the same type, thus clearly showing that we are dealing with a feature of typological rather than genetic linguistic or cultural patterning. Note that the ground nouns are not in prepositional phrases, as in French, but occur with directional suffixes; nevertheless, the verb-framed organization remains the same.

- (3) a. Turkish original: *Iğdır ovasın-dan Başköy-e geçti. Ahuri ko-yanın-a çıktı, ora-dan Ahuri yaylasın-a geçti.* (Kemal 1970: 21)  
 'Iğdır plain-ABL Başköy-DAT *passed*. Ahuri vale-DAT *ascended*, there-ABL Ahuri plateau-DAT *passed*.'  
 (3) b. English translation: They swept *along* the plain of Iğdır, *on to* Bashkoy, *through* the Ahuri Vale and *up on to* the Ahuri plateau. (Kemal 1975: 22)

The English version is, indeed, one 'sweep': *along — on to — through — up on to*. The original is, by contrast, segmented: *pass from — to; ascend to; pass from — to*. (The original also makes no explicit mention of manner; we will return to this fact.)

Why should the typological opposition lead to such asymmetries in connected discourse? Is it simply the case that each path verb can occur with only one explicit ground element? This cannot be the explanation, because the Turkish example shows that it is possible, in a V-language, to encode more than one ground element with a verb of motion: 'pass from the plain to Başköy [a village]'. Similar examples can be found in the Romance languages, as in (4), from a Spanish novel:

- (4) Spanish original: *Ibamos caminando desde la casa del tío Lucho ... hacia el cine Barranco.* (Vargas Llosa 1977: 20) 'We went walking from Uncle Lucho's house ... toward the Barranco Cinema.'

### 1.1. Boundary-crossing

In order to account for the stylistic differences between the two types of languages it is necessary to add another sort of path component: *boundary-crossing* (Aske 1989; Slobin 1996b; Slobin and Hoiting 1994). It appears to be a universal characteristic of V-languages that crossing a spatial boundary is conceived of as a change of state, and that state changes require an independent predicate in such languages. In English, for example, one can use satellites not only for change of locative state — e.g., *he ran into the house*, but for changes of state generally — e.g., *he kicked the door shut*. By contrast, in a V-language one must say the equivalents of 'he *entered* the house running' and 'he *shut* the door by kicking', predicating the change of state in the main verb and expressing the manner or cause in a subordinate fashion (Aske 1989; Talmy 1991). When a path crosses a boundary, then, it is no longer possible to accumulate a series of grounds to a single verb, because the state-change from one side of the boundary to the other will be expressed by a separate verb, with its associated ground, such as *sortir* 'exit' and *franchir* 'cross' in (2c) and *geçmek* 'pass, cross' in (3a). This constraint is seen clearly in translations from a V-language to an S-language. For example, whereas an English writer can use one verb for 'descending and exiting', the Spanish translator requires two:

- (5) a. English original: *...she went downstairs and out of the house.* (Fowles 1969)  
 (5) b. Spanish translation: *...ella bajó la escalera y salió de la casa.* (Fowles 1981)  
 '...she *descended* the staircase and *exited from* the house.'

On the other hand, if no boundary is crossed, the translation matches the original, using one verb and two grounds:

- (6) a. English original: *I went up the great stairs towards her...* (du Maurier 1938: 65)  
 (6) b. Spanish translation: *Subí los anchos escalones hasta ella...* (du Maurier 1959: 99) 'I *ascended* the broad stairs towards her...'

As far as I can tell, boundary-crossing plays no role in the lexicalization patterns and associated syntax of S-languages. Sentences (5a) and (6a) seem equally natural and unexceptionable in English, though requiring different kinds of translations — and perhaps conceptual analyses — in a V-language like Spanish.

1.2. *Relation of grounds and verbs*

These factors have consequences for the narrative style of original texts and of translations in and between the two language types. Consider, first, the expression of *grounds* (source, goal, medium, milestone). The necessary segmentation of some kinds of paths into separate predicates in V-languages affects the ratio of grounds to verbs in texts:

*Proposal:* Texts in V-languages will generally be characterized by the occurrence of fewer ground elements per verb, in comparison with texts in S-languages.

Preliminary surveys of a collection of literary texts seem to support this hypothesis.<sup>2</sup> Verbs of motion and their accompanying grounds have been coded in samples from S-languages (English, German, Dutch; Russian) and V-languages (French, Spanish; Turkish; Japanese). Overall, satellite-framed texts have more than one ground element per verb, whereas verb-framed texts have fewer than one ground element per verb. Perhaps of greater import is the finding that in our sample of texts from V-languages there are no instances of a verb occurring with more than two grounds; the S-language texts, by contrast, have a number of instances of three or more grounds per verb.

One obvious explanation for these contrasts may be that the paths of movement that narrators are interested in seldom go on for long without going across some boundary — that is, entering, exiting, or crossing. It would then be inevitable for a V-language narrative to break such trajectories into separate predicates, each with its own ground, as in (5b). Indeed, the great majority of extended paths do involve segments of boundary crossing. It is striking that most of the human movements that are described in narrative texts are filled with comings in and goings out and passings by or through. Protagonists do not seem to spend much time simply moving along a route. These real-world facts of human action and narrative interest are certainly part of the explanation. But they do not explain why V-language writers do not accumulate grounds to a verb in those situations in which a protagonist does move with respect to several grounds *without* crossing a boundary. For example, I have encountered nothing like the following unexceptional English sentence in any of the V-language texts. The three ground elements are in boldface:

- (7) a. English original: *So the three men walked slowly and without visible agitation through the streets from the jail to the marshy point.* (Michener 1978: 764).

There is nothing in the syntax or lexicalization patterns of a V-language that would prevent such an expression. In fact, the Spanish translation of (7a) shows that such a construction is accessible to a V-language writer:

- (7) b. Spanish translation: *Así, pues, los tres hombres caminaron lentamente y sin agitación visible por las calles, desde la cárcel hasta el extremo de la marisma...* (Michener 1980: 570)  
 'Thus, then, the three men walked slowly and without visible agitation through the streets, from the jail up to the edge of the marsh...

1.3. *Style*

Although sentences such as (7b) are possible, they seem to be strongly disfavored by V-language writers in our sample. In addition to the general human interest in movements that cross boundaries, there must be some additional constraint at work. I suggest that a general *narrative style* emerges in a language, based on systematic linguistic constraints, but going beyond them. The combined effect of a lexicon of path-verbs along with a boundary-crossing constraint is a style in which most path segments are encoded by separate verbs with a limited number of ground nominals per verb. The result is a sort of "rhythm" that becomes a habit or a norm, setting a framework that goes beyond its core linguistic determinants.

*Proposal:* Each type of lexicalization pattern engenders a type of style.

Although sentences like (7b) can be used in translations, I suspect that they have a "translational flavor" to Spanish-speaking readers. Original V-language texts move along from verb to verb, without a dense packing of grounds. Thus translators moving from an S- to a V-language often delete some ground elements, presumably to keep the text from becoming "cluttered" in a non-native fashion. In an earlier study of translations from English to Spanish (Slobin 1996b), I found that 24% of path-descriptions were reduced in some way. One type of reduction removes a ground element that can be presupposed; e.g.:

- (8) a. English original: *He strolled across the room to the door...*  
 (du Maurier 1938: 329).  
 (8) b. Spanish translation: *Se dirigió a la puerta...*  
 (du Maurier 1959: 446).  
 '(He) directed himself to the door...'

Another type of reduction removes a path component, as in the following elimination of vertical movement in the translation:

- (9) a. English original: *Gradually he worked his way up to the foot of the bluffs...* (Fowles 1969: 136)
- (9) b. Spanish translation: *Poco a poco, fue acercándose hasta el pie de los riscos...* (Fowles 1981: 143)  
'Little by little he was approaching the foot of the bluffs...'

In such cases, adherence to the original would require the use of an additional verb or directional expression in the translation, resulting in a "non-native" style.

### 1.3.1. Psycholinguistic bases of style

A number of psycholinguistic factors probably play a role in establishing and maintaining style. In producing narrative discourse, speakers of a V-framed language may have learned to organize "prelinguistic messages" into the sorts of path segments that are lexicalized by path verbs in the language. Segments at this level of granularity tend to bring with them particular bits of ground information — passing a milestone, approaching a goal, entering an enclosure, and so forth. This pattern of conceptualization comes to be automated over years of learning and practice. A useful psycholinguistic framework for this proposal is provided by Levelt's (1989) model of speech production. The relevant component here is the "Conceptualizer," which prepares a preverbal message for the "Formulator" — the component that assembles utterances for production. In the model, the Formulator can only deal with messages that fit language-specific requirements. In the course of language acquisition and use, correspondences develop between the Conceptualizer and the Formulator and become highly skilled. As a consequence, speakers "automatically retrieve the conceptual information to be acknowledged for the specific language spoken" (Levelt 1989: 160). I propose, then, that the Conceptualizer of a V-language speaker has become tuned to prepare preverbal messages that segment and associate paths and grounds in the ways described.

At the same time, comprehenders of V-languages develop expectations of the normal information flow in the language, and are prepared to segment speech and build up mental images in accordance with these habitual and automatic patterns. When these two components of habitual production and comprehension are placed in a social framework, the resulting style is not only freely processible, but also comes to be normatively and aesthetically valued, thus further reinforcing the patterns.

### 1.3.2. Rhythm

One consequence of the confluence of psycholinguistic and cultural factors is the preference for a particular type of narrative rhythm. This factor is perhaps most evident in the emergence of literary forms from oral performance. Fleischman (1990) has detected the influence of oral prosody and pragmatics in medieval vernacular literature. In a discussion of what she calls "information blocking," or the "tempo" of the text (pp. 204–214), she analyzes the representation of journeys in texts such as *Le Chevalier au Lion* (Yvain), *La Chanson de Roland*, and *Poema del Cid* — composed in V-languages (French and Spanish). The pattern at issue is an analysis of paths into segments, such as:

- (10) a. Medieval French: *Tant trespassent de la maison que il vindrent en un vergier.* (Yvain, 5344f.) 'They journey so far/long from the house that they came to an orchard.'
- (10) b. Medieval French: *Tant chevalchat qu'en Saraguce fut.* (Roland, 2818) 'He rode so far/long that he was in Saragossa.'
- (10) c. Medieval Spanish: *Parrtios de la puerta, por Burgos aguijava.* (Cid, 51) 'They left through the gate [and] set off toward Burgos.'

Fleischman notes:

Syntax of this type is designed to block information into relatively small clauses, each corresponding to a metrical unit and arranged with the appearance of a result clause structure... The alternative would be to package all of the information contained in the two clauses into a single clause ("they journey from the house to the orchard," "he/they rode as far as Saragossa," "he set off for Burgos"), in which the goal of the motion verb is expressed only by a locative noun phrase. ... In the medieval examples ..., the linguistic expression of journeys is divided between two clauses, each with its own verb: motion and path (and optionally manner) are expressed by the verb of the first clause, while goal is expressed in a second clause by a verb (generally of little semantic weight) and a locative complement (p. 208).

Fleischman attributes these early literary forms to the demands of oral narration: "they reduce the density of new information, thereby facilitating processing for the listener, while at the same time accommodating the demands of prosody" (p. 209). It is quite plausible that such factors of oral performance played a role in the emergence of literary forms, but one might also suggest that those factors were, themselves, partly influenced by linguistic typology. The sort of pattern found in the early Romance language texts is just what one would expect to find

in a V-language. The following path description in *Poema del Cid* is strikingly similar in organization to the modern Turkish description in (3a) above:

- (11) Medieval Spanish: *ivan troçir los montes, los que dizen de Luzón, / troçieron Arbuxuelo e llegaron a Salón* (*Cid* [1959: 230])

'(they) go to cross the mountains, those called Luzón / they crossed [the valley of] Arbuxuelo and arrived at Salón'

Early medieval writing in S-languages was apparently not similarly constrained. Chaucer, for example, uses the same kind of compacting of motion events as found in modern English. Consider two examples from *The Canterbury Tales*. In the first example we find the kind of packaging that is apparently excluded from the Romance languages: *is riden into the feelds ... out of the court ... to the grove*. Here the demands of prosody and tempo are met by interspersed asides, rather than the introduction of separate verbs of motion. The lexical and syntactic organization are typical of an S-language:

- (12) a. Medieval English: *He on a courser, startlynge as the fyr, / Is riden into the feelds, him to pleye, / Out of the court, were it a myle or tweye; / And to the grove, of which that I yow tolde, / By adventure, his wey he gan to holde...* (*The Knight's Tale* [1964: 70])

'He, on a courser, as spirited as fire, / Has ridden into the fields, to amuse himself, / Out of the court, perhaps a mile or two; / And to the grove, of which I told you, / By chance he took his way...'

In the second example we find the familiar accumulation of grounds to one verb: *...to the launde he rydeth him ... over a brook, and so forth on his weye...*

- (12) b. Medieval English: *And to the grove, that stood ful faste by, / In which there was an hert, as men him tolde, / Duk Theseus the streighte wey hath holde. / And to the launde he rydeth him ful right, / For thider was the hert wont have his flight, / And over a brook, and so forth on his weye.* (*The Knight's Tale* [1964: 80])

'And to the grove that stood nearby, / In which there was a hart, as he was told, / Duke Theseus went straight. / And to the glade he rides directly, / For thither would the hart take flight, / And over a brook, and forth on his way.'

Thus it would seem that the demands of rhythm or tempo have interacted with typological patterning from the earliest periods of written literature, leading to different patterns in the emergence of literary languages in Western Europe.

### 1.3.3. Language type and event analysis

Early medieval writing in both language types reflected information processing and prosodic demands arising from a tradition in which narratives were produced orally and processed by listeners. Modern fiction, however, is written for skilled silent readers who probably require faster and less redundant information flow. The balanced rhythms of early medieval texts may have been pleasing to audiences nourished by oral performance, but the tempo of modern fiction is not constrained by metric considerations. For the modern reader, each individual motion verb in an event description both slows the narrative tempo and foregrounds the particular path segment that is encoded by that verb. Additionally, encoding a continuous path in a series of separate verbs can produce the image of a segmented path. Compare, for example, the single trajectory presented in (5a), *she went downstairs and out of the house*, with its Spanish translation in (5b), which seems to divide the trajectory into two subevents: *ellá bajó la escalera y salió de la casa* 'she descended the staircase and exited from the house'. These factors of lexicalization may predispose V-language writers to encode only the salient part of a trajectory, leaving the rest to inference. As a result, users of V-languages might differ from users of S-languages with regard to the *granularity* with which they describe motion events.

*Proposal:* Comparable motion events will be described with fewer path segments in V-languages than in S-languages.

This proposal is difficult to fully evaluate with regard to translations. Although translations into a V-language often omit path segments that were included in the S-language source, translators generally strive to follow the content of the original. The Spanish translations in (8) and (9) show omission of locative directional material expressed in the English original, but the number of verbs remains constant. If anything, we find addition of verbs, as in the French translation in (2c). However, such versions may stretch the target language beyond its normal narrative style. Therefore, a different sort of method is called for here — a method which provides crosslinguistic descriptions of comparable events without the use of translation. One possibility is to elicit narratives from speakers of various languages, using the same pictured situations. We have employed this method in an extensive series of investigations using a picture storybook without words, *Frog, where are you?* (Mayer 1969). Studies have been done in a number of S- and V-languages, with children and adults (Berman and

Slobin 1994); here I will focus only on one scene from adult narrations in several languages. It is of interest that language typology contributes to systematic differences in narrative style in this spontaneous oral task, following the same patterns as in written narrative.

The story revolves around a runaway pet frog and a search to recover it, carried out by a little boy and his pet dog. At a critical point in the picture sequence the following event occurs, as described by an English-speaking adult:

- (13) English oral narrative: *And he gets on top of the rock and calls for the frog again, and leans on what looks like branches. Then these branches turn out to be antlers of a deer. The boy gets snagged on it. The deer runs away with the little boy on its head to the edge of a cliff. The boy falls off into a pond, falls off with his dog. Then, when he's in the pond, he hears something.*

The use of motion verbs with satellites and grounds clearly shows that this is an S-language production (*run away to the edge of a cliff; fall off into a pond*). However, what is new here is the possibility of analyzing a single eliciting event into its components, and comparing languages with regard to the encoding of those components. Although speakers of both types of languages are able to relate the event at any degree of granularity, the proposal is 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. In one schematic analysis, we looked across languages for mention of the following four potential event components:

1. change of location: deer moves, runs, arrives at cliff
2. negative change of location: deer stops at cliff
3. cause change of location: deer throws boy, makes boy/dog fall
4. change of location: boy/dog fall into water

We examined ten adult stories in each of the following languages: S-LANGUAGES: *Germanic*: Dutch, English, German, Icelandic, Swedish; *Slavic*: Polish, Russian, Serbo-Croatian; V-LANGUAGES: *Romance*: French, Portuguese, Spanish; *Semitic*: Hebrew.<sup>3</sup> As shown in the following data summaries, speakers of S-languages (a) mention more components on average — about 3 segments, versus 2 for V-languages, and (b) a greater portion of speakers of S-languages mention 3 or more segments. It would seem, then, that habitual use of an S-language may predispose speakers to pay more linguistic attention to components of motion events.

Average number of event segments and percentage of narrators mentioning more than three segments

Satellite-Framed		Verb-Framed	
Germanic (DU, EN, GE, IC, SW)	3.0 86%	Romance (FR, PR, SP)	2.1 30%
Slavic (PL, RU, SC)	2.8 76%	Semitic (HE)	2.0 30%

#### 1.3.4. Culture and narrative style

Language alone, however, is not the only factor to consider in exploring the relations of mind, code, and text. Givón has emphasized the role of another dimension of context in addition to the ongoing discourse situation (Givón 1989: 324):

*The shared ('generic') world-view context:* Shared knowledge of the physical and cultural universe, as coded in:

- (i) *The (encyclopedic) lexicon;*
- (ii) *Shared conventions of behavior and communication.*

All of the cultures involved in our analyses are Western, and the narrators are urban and educated. The differences in narrative style seem to be attributable simply to linguistic typology. Note, for example, that Turkish and the Romance languages fall into one group, contrasting with the Germanic and Slavic languages; additionally, in ongoing analyses, we are finding that Hebrew and Japanese pattern with the other V-languages with regard to many of the dimensions considered here. This is certainly not a cultural division. However, David Wilkins (1996) has clearly demonstrated that cultural factors can add another significant dimension to the role of motion descriptions in narrative. Wilkins works with the Arrernte of Central Australia, a society which has a pervasive cultural and linguistic interest in motion and orientation. He proposes:

The special Arrernte concern for motion and orientation will manifest itself even in elicited narratives, and as a consequence of this the structuring of motion events in Arrernte will be both qualitatively and quantitatively different from that of English. For example, Arrernte speakers should deploy spatial language to construct *more* elaborated paths and journeys than English speakers.

Wilkins finds that even though Arrernte is a V-language, speakers analyze this particular event in the frog story in much more detail than any of our narrators. Arrernte adult narratives describe this scene using 6–9 path segments out of a potential 14 segments reported by one or another Arrernte narrator. Wilkins presents a convincing case for a cultural hypothesis that goes beyond the linguistic typology presented here:



[T]he Arrernte data show that it is not a simple matter of verb-framed vs. satellite-framed typology which predicts whether speakers rhetorically code journeys with more or fewer path segments. In fact, I would predict that speakers of Central Australian desert languages would behave essentially the same way, independent of language type, due to areal cultural factors.

It is likely, then, that cultural factors can modify the proposals presented here. However, for present purposes, we will continue to explore available written texts, searching for patterns of language use that seem to be based on the typology of lexicalized patterns.

### 1.3.5. Scene-setting and context

Thus far we have attended to individual verbs of motion and associated elements. But texts are, by definition, extended and connected. Returning to our Western data, we can ask whether V-language narrators organize larger stretches of discourse in ways that might give information about the movements of protagonists. A description of the *setting* in which motion occurs makes it possible to picture the path of motion without spelling out each of components in separate verbs.

*Proposal:* Speakers of V-languages are more likely to devote attention to describing aspects of the static scene which provides the physical context for a motion event.

The elicited narrative data provide clear support for this proposal. For example, the following descriptions of the event described in (13) are representative of scene-setting in V-languages:

- (14) a. *Spanish oral narrative: Se acerca hacia un barranco, por debajo del cual corre un río. Le da un empujón y le tira. Y el perro también se cae con él. Claro que el niño se quedo sentado en el centro del río.*

'[The deer] approaches a ravine, below which there flows a river. He gives him a push and he throws him. And the dog also falls with him. Of course, the boy ends up seated in the middle of the river.'

In this account, we are told that the deer 'gives him a push' and that the dog 'also falls' and the boy ends up 'seated in the middle of the river'. We can infer that the trajectory went from some elevated place to the river because of the description of the scene: 'a ravine below which there flows a river'. In comparison with S-language narratives, the Spanish texts have an abundance of such

static descriptions of settings, suggesting a different allocation of attention between description of movement and description of states. This pattern is found in all of the V-languages in our sample — but hardly ever in the S-languages. Here are some additional examples:

- (14) b. French oral narrative: *Et il le projette dans la rivière, qui se trouve en contrabas. Le petit garçon et le chien tombent dans la rivière.* 'And he throws him in the river that is found below on the other side. The little boy and the dog fall in the river.'
- (14) c. Turkish oral narrative: *Geyikle uçurumun kenarına doğru gidiyor. Köpek de yanlarında koşuyor. Çocuğu aşağıya atıyor, köpek de düşüyor aşağıya. Uçurumun dibinde bir göl varmış. Göle düşüyorlar.* 'With the deer (he) goes straight to the edge of the cliff. The dog runs by their side. (He) throws the boy down, and the dog falls down too. At the bottom of the cliff there was a lake. (They) fell to the lake.'
- (14) d. Hebrew oral narrative: *Ve ha'ayil nivhal, ve hu hitxil laruts. Ve hakelev rats axarav, ve hu higia lemacok she mitaxat haya bitsa, ve hu atsar, ve hayeled ve hakelev naflu labitsa beyaxad.* 'And the deer was startled, and he began to run. And the dog ran after him, and he reached a cliff that had a swamp underneath, and he stopped, and and the boy and the dog fell to the swamp together.'

Comparing the two types of languages in the sample reported above, we have found that 21% of the adult speakers of V-languages provide static scene-setting of this sort, in contrast to only 8% of the adult speakers of S-languages. In fact, there are no instances at all in Dutch, German, English, Polish, or Russian. By contrast, there are instances in all of the V-languages.

The dominant pattern in S-languages is an elaboration of path components, most typically compacting several components into particles and prepositional phrases, as in (13), or in the following examples:

- (15) a. English oral narrative: *And he starts running. And he tips him off over a cliff into the water. And he lands.*
- (15) b. German oral narrative: *Der Hirsch nahm den Jungen auf sein Geweih und schmiß ihn den Abhang hinunter genau ins Wasser.*



'The deer took the boy on his antlers and hurled him down off of the cliff right into the water.'

Careful reading of literary fiction in V-languages also reveals a preference to rely on context and inference, rather than elaboration of paths of motion in the S-language style. In the following example from Spanish, we know that if the protagonist opened the window and jumped, she must have fallen from the window; and if she fell upon the bushes she must have ended up at least partly inside of them. The English translation makes these relations explicit where they are left to inference in the original.

- (16) a. Spanish original: *Entonces abrió la ventana y saltó, cayendo sobre las matas de hortensias...* (Allende 1982: 140)  
'Then (she) opened the window and jumped, falling above/upon the hydrangea bushes...'
- (16) b. English translation (emphasis added): *Then she opened the window and jumped out, falling into the hydrangea bushes...* (Allende 1985: 156)

### 1.3.6. Static versus dynamic description

Scene-setting is a form of static description. There is suggestive evidence that V-languages which are as culturally different as Spanish and Japanese show a predilection for such description, perhaps partly determined by their linguistic typology.

One interesting pattern is to predicate inherent directionality of a noun that means 'path' rather than to predicate dynamic translocational movement of a protagonist. In the following excerpt from a Spanish novel, it is evident that if the protagonist 'began to walk along a path that led to the town' he himself must have walked to the town:

- (17) Spanish: *Tomó sus maletas y echó a andar por el barrial y las piedras de un sendero que conducía al pueblo.* (Allende 1982: 49)  
'He picked up his suitcases and started to walk through the mud and stones of a path that led to the town.'

The same pattern occurs repeatedly in translations from English into Spanish. The following S-language construction allows the protagonist to go *down the path* — *through the woods* — *to the beach*. The V-language translation, by contrast, uses a relative clause to describe a path that 'traverses the woods' and 'descends to the beach'.

- (18) a. English original: *Then I, too, went down the steep twisting path through the dark woods to the beach below.* (du Maurier 1938: 323)
- (18) b. Spanish translation: *También yo tomé entonces el pendiente y tortuoso sendero que, atravesando la arboleda oscura, bajaba a la playa...* (du Maurier 1959: 338)  
'Then I, too, took the steep and twisting path that, traversing the dark woods, descended to the beach...'

Ohara (1995) has noted similar patterns in translations from English into Japanese. In the following example, the original S-language description has the protagonist *step out of the lane into the backyard*. The translation into Japanese, a V-language, describes a sort of temporal/spatial change of state of the lane.

- (19) a. English original: *With this Mrs. Rachel stepped out of the lane into the backyard of Green Gables.* (Montgomery 1908)
- (19) b. Japanese translation: *koo ii-owatta toki ni wa komiti wa tukite, Green Gables no uraniwa e kiteita.* (Montgomery 1954: 8)  
this say-finished time LOC TOP lane TOP end-TE Green Gables GEN backyard GOAL come-ASP-PAST  
'When (she) finished saying this the lane ended, and (she) was in the backyard of Green Gables as a result of coming.'

More broadly, Ohara proposes a general Japanese preference for static descriptions. She offers the following example:

- (20) a. English original: *Finally he returned to the pawnbroker's, and, having thumped vigorously upon the pavement ..., he went up to the door ...* (Doyle 1892)
- (20) b. Japanese translation: *sosite saigo ni, sitya no mae no sikiisi o tonton to tuyoku ... tataite kara, doa o tataite ...* (Doyle 1953: 71)  
then finally pawnbroker GEN front GEN pavement ACC MANNER-QUOTE vigorously hit-TE after door ACC hit-TE  
'Finally (he) vigorously thumped upon the pavement in front of the pawnbroker's ..., and (he) knocked on the door, and ...'

Ohara provides an insightful discussion of this contrast (p. 12):

The English original depicts movements of Sherlock Holmes step by step. It explicitly encodes that he first *returned* to the pawnbroker's and then *went* to the door. The Japanese translation, on the other hand, does not explicitly assert his returning to the pawnbroker's and going to the door. It merely mentions the two ground elements, *pawnbroker's* and *door*. Note also that motion verbs do not appear at all in the Japanese description. ... In reading (the translation) we are encouraged to *infer* that Sherlock Holmes had returned to the pawnbroker's by being told that 'he thumped upon the pavement in front of the pawnbroker's'. Similarly, we are supposed to *infer* that he had gone up to the door, since we are told that 'he knocked on the door'.

It is too much, of course, to claim that V-language typology is responsible, alone, for a network of characteristics of Japanese language and culture. Ikegami (1991), for example, has persuasively argued for a collection of traits that distinguish Japanese as a "become-language," in contrast to a "do-language" such as English. However, with regard to motion events, Ikegami's analysis is certainly consistent with V-language typology. He notes (p. 322):

... English has a tendency, in linguistically representing an event, to focus on the individuum involved in the event, while Japanese tends to focus on the event as a whole. Reduced to the problem of motion, this means that English tends toward the 'change in locus' pole, and Japanese toward the 'change in state' pole.

Ohara concludes her discussion with a tone of "cautious interest" that I would share at this preliminary phase of the investigation (pp. 16-17):

It thus seems not totally implausible to speculate that structural properties of languages (in terms of verb-framed vs. satellite-framed languages) may be related to their preferred rhetorical styles.

## 2. Manner of Motion

The two types of language also show distinct differences with regard to the expression of *manner* of motion. In an S-language, where path is encoded by satellites, the verb is free to express any meaning that can be construed as relevant to the movement expressed by the satellite(s). Thus one can not only *go across*, but one can *run, jump, fly, slip, dash, sled, skateboard ... across*. The verb slot must be filled by some lexical item that can carry the necessary finite marking to constitute a syntactically acceptable clause, but the meaning of the verb is free to be selected from a very large array. The situation is more

complex in a V-language. If the path does not cross a boundary, the main verb can be a manner verb, as in an S-language. In the Spanish examples in (4) and (7b), for example, *caminar* 'walk' is used to move the protagonist 'from' one place 'to' another. When a boundary is crossed, however, the main verb is preempted for boundary crossing. In order to move a protagonist across a street in a particular manner, for example, one would have to subordinate a manner expression to a main verb of boundary crossing: 'to cross running / in a jump' and the like. This option has serious narrative consequences: it foregrounds manner of movement by addition of a special expression and, at the same time, it slows down the pace of narration. In addition, as we have seen in example (1), it is difficult in a V-language to describe manner that has its scope across several segments of a path (*run out the kitchen door, past the animal pens, towards Jasón's house*). Because of these factors, the expression of manner of movement has a distinctly different status in the content and organization of narrative in the two types of language.

### 2.1. Association of manner with ground

One consequence for V-language narration, as already noted with regard to example (16), is a reliance on inference from context as opposed to the direct expressions favored in S-languages. In (16) it was sufficient for the Spanish-speaking novelist to say that the protagonist 'opened the window and jumped', thus avoiding the use of a manner verb in a construction with a boundary-crossing phrase. Here we return to the expression of grounds of movement, and find that constraints on the use of manner verbs play a role.

*Proposal:* In texts in V-languages, in comparison with S-languages, a greater proportion of clauses expressing manner of movement will consist of manner verbs alone, without phrases expressing the ground(s) of movement.

This is an additional typological factor influencing the pattern proposed in 1.2. Not only does the boundary-crossing constraint tend to limit the number of grounds that are expressed in association with individual verbs in V-languages, but the interaction of this constraint with the expression of manner contributes to a tendency to use "bare" verbs, with no associated ground elements at all.

Although I have not yet done the necessary counts, it is my impression that this proposal holds up in comparing the V- and S-languages texts considered here. There is certainly evidence in the *Hobbit* translations for elimination of reference to ground in the presence of manner verbs. For example, at a critical moment a dwarf, Dori, escapes into a tree to escape from wolves. We know that

the dwarves are seeking refuge in trees, and Tolkien tells us that Dori waited to help Bilbo, and then:

- (21) a. English original: ... *he jumped for the branches himself* ...

Some of the V-languages follow suit, since this is not a boundary-crossing event. For example:

- (21) b. Portuguese translation: ... *ele mesmo saltou para os galhos*.  
'... he himself jumped for the branches.'

Some other V-languages, however, are content to simply describe the jump, leaving it to context to fill in the rest; for example:

- (21) c. Spanish translation: *Esperó ..., y luego saltó*.  
'(He) waited ..., and then jumped.'  
(21) d. Hebrew translation: *hu xika ... ve-rak az hu'acmo kafac le-ma'la*.  
'he waited ... and only then he himself jumped up.'

Note that the effect of this proposal is, once again, to increase reliance on inference from context in V-language narrations — not only scene-setting, but also antecedent events.

## 2.2. The contexts of manner expressions

In an S-language, where the main verb is free to express manner in all simple clauses — whether or not a boundary-crossing is involved — the use of a manner verb *per se* does not make manner salient. It is normal, for example, to say things like *the bird flew in through the open door*. Indeed, the *absence* of a manner verb carries information, in that it violates a neutral expectation. If I tell you that the bird *came in through the open door* you might wonder if it entered in some noncanonical fashion — perhaps on foot. In a V-language, by contrast, the default motion description is to use a neutral verb. In fact, in some such languages it is distinctly odd to speak of a bird as 'flying', rather than simply 'coming' or 'going'. Braun (1976: 390), for example, comments that it is usual, in French, to say *L'oiseau est entré par la fenêtre* 'The bird entered through the window' and *Le serpent a traversé le trottoir* 'The snake crossed the sidewalk' — whereas in English we would more likely use the verb-satellite constructions *flew in* and *crawled across*. He notes: "It is assumed that the bird flew and that the serpent crawled. Of course, if the bird hopped through the window, the French would say: *L'oiseau est entré par la fenêtre en sautillant* ['the bird entered through the window in hopping']." Thus, once again, V-languages seem to rely more on context — in this instance with regard to inferring manner of movement.

This contrast has often been noted. A penetrating discussion was provided in 1944 by Malblanc in a comparative stylistics of French and German — with a subtitle that well fits our quest a half-century later: *Essai de représentation linguistique comparée*. In one section, he compares the French verb *passer* 'pass, cross' with "une vaste série de verbes images allemands." Like English, German provides verb-satellite constructions equivalent to *drive past*, *fly across*, *sail along*, and the like. In comparing the two languages (and, we would add, the two language types), Malblanc notes (p. 14):

Pauvreté ou miracle, un seul petit verbe signe 'passer' peut correspondre à une cinquantaine de verbes allemands. C'est que 'passer' nuance ou change son sens selon les autres mots auxquels il est associé. Très souvent, en français, les vocables n'ont leur valeur précise que par leur contexte, tandis qu'en allemand les mots portent bien davantage en eux-mêmes leur signification.

These circumstances have strong implications for the occurrence of manner verbs in the two types of languages. In a V-language, manner expressions are, as it were, doubly marked: semantically, they indicate that manner is salient; and in terms of material substance, when combined with a path verb, they are heavier expressions than the corresponding constructions with finite main verbs in S-languages (cf. *run in* versus *entrar corriendo* 'enter running').

*Proposal:* When a V-language narrator is faced with an event which involves both translational motion and manner, manner will be expressed only if it is exceptional; otherwise, translational motion takes precedence.

One obvious consequence of this proposal is that manner verbs will be relatively less frequent in V-language texts. This is well substantiated by all of the texts in the sample. The V-languages abound with verbs meaning 'come', 'go', 'enter', 'exit', and the like — that is, basic path verbs, with only occasional uses of manner verbs.

The *Hobbit* translations provide clear examples of the choice between manner and direction. For example, just prior to the episode related in (21), Tolkien reports that Dori *climbed out of the tree* — a combination of manner (*climb*) plus direction (*out of*). All of the S-languages keep both types of information in their translations: Dutch, German, and Russian use versions of 'climb' plus 'out' or 'down from'. By contrast, a verb that simply means 'descend' is used by all of the V-languages: French, Italian, Portuguese, Spanish, and Hebrew. In every case, it is known that Dori has descended from a tree, and directionality apparently takes precedence over an extended description of the obvious manner of descent.

### 2.3. The salience of manner

Given these facts, a relatively "neutral" manner verb in a V-language conveys a more salient message than its apparent translation equivalent in an S-language. In order to foreground manner in an S-language, therefore, it is necessary to "up the ante" and use a more expressive verb. Accordingly, one would expect to find differences in lexical stock in comparing the two types of languages:

*Proposal:* S-languages will have a larger and more diverse lexicon of manner verbs, in comparison with V-languages.

This fact was already noted by Malblanc in comparing German with French, and it holds up for all of the languages in our sample.<sup>4</sup> The Germanic and Slavic languages have a vast collection of such verbs, most of them untranslatable into the much smaller lexica of V-languages. Consider, for example, a few Spanish manner verbs and their English equivalents. Notice how general in meaning the Spanish verbs are, in comparison with the set of translations (as given by Collins dictionary, with 250,000 entries).

<i>deslizarse</i>	= creep, glide, slide, slip, slither
<i>escabullirse</i>	= scurry off, scuttle away/off, slip away
<i>saltar</i>	= bound, dive, hop, jump, leap, spring
<i>tropezar</i>	= stumble, trip, tumble

(The picture is essentially the same if one starts with English and searches for Spanish equivalents. Only two more Spanish verbs appear: *brincar*, which is a near synonym of *saltar*, and *escuirlse*, with the English equivalents *slip/glide away* — thus partly overlapping with the meanings of *deslizarse* and *escabullirse*. In all, 6 Spanish verbs correspond to 15 English verbs.)

Another way to evaluate this proposal is to list the manner verbs in Chapter 6 of *The Hobbit* and its translations. In the original English there are 25 types of verbs expressing manner of self-movement, most of them occurring with more than one satellite: *clamber, climb, crawl, creep, fall, flee, fly, jump, leap, limp, march, push (through), roll, run, rush, scatter, scramble, scuttle, slide, step, swarm, sweep, swing, swoop, trot*. The other S-languages — Dutch, German, and Russian — have an average of 22 types, while the four Romance languages have an average of 16.<sup>5</sup>

Consider, for example, the manner verbs used in the French translation, in comparison with their English sources. Translators of a dramatic and fanciful book like *The Hobbit* are certainly trying to make use of the full expressive resources of their language. However, note the English distinctions that are

apparently not easily conveyed in French. The following French verbs were used to translate two or more English verbs:

<i>bondir</i>	→ jump, leap
<i>courir</i>	→ run, scuttle
<i>fondre</i>	→ sweep, swoop
<i>(se) glisser</i>	→ crawl, creep, slide
<i>grimper</i>	→ clamber, climb, scramble, swarm

The distinction between the language types can be seen, again, with regard to the tree episode. All of the languages have manner verbs for ascent into trees (whereas descent from trees, as indicated above, presents a more problematic combination of direction and manner). In this episode, the dwarves flee into the trees to save themselves — that is, an extreme manner of ascent is involved. The Germanic and Slavic vocabularies provide various everyday versions of 'climb' which mean only to move oneself in a sort of four-limbed, clutching manner — in any direction (in English we can *climb down from a tree* just as well as *climb up into it*, for example). The default verb for going up into trees is *climb* — that is, it would be odd to say *they went up into the trees* or *they ascended the trees*. Therefore this episode calls for a more dramatic manner verb. Tolkien uses *scramble (up)*, and the other S-languages follow suit: German (*hinauf*)-*krabbeln*, Dutch (*omhoog*)-*klauteren*, and Russian (*vs*)-*karabkat'sja*. The V-languages, however, simply use their "neutral" 'climb' verb (which is, in every case, restricted to vertical movement in a special manner): French *grimper*, Italian *arrampicarsi*, Spanish *trepar*, Hebrew *le-tapes*. And the Portuguese translation omits manner entirely, simply using *subir* 'ascend'.

Contrasts such as these demonstrate that the comparative lexica differ in another way. Languages seem to have a "two-tiered" lexicon of manner verbs: the neutral, everyday verbs — like *walk* and *fly* and *climb*, and the more expressive or exceptional verbs — like *dash* and *swoop* and *scramble*. In S-languages, the second tier is extensive and elaborated, making distinctions that do not play a role in the considerably smaller second tiers in V-languages.

These facts pose particular problems to translators — in both directions. In an earlier study of translations between English and Spanish, I found that only 51% of English manner verbs were translated into Spanish manner verbs (Slobin 1996b). The other half were either neutralized or omitted, as in examples (1), (8), (9), and the tree-climbing translations discussed above. By contrast, translators who move *into* an S-language like English or Dutch often replace a plain path verb with a first-tier manner verb, apparently in order to save the text from sounding bare and academic. The following Dutch translation of French is typical:

- (22) a. French original: ... *lorsque le comte de Buondelmonte entra dans sa chambre*. (Sand 1994: 36)  
'... when the Count of Buondelmonte entered in his room.'
- (22) b. Dutch translation: ... *toen graaf de Buondelmonte zijn kamer binnenstapte*. (Sand 1994: 37)  
'... when the Count of Buondelmonte stepped into his room.'

When the context of a V-language path verb suggests more dramatic manner of movement, translators into S-languages often have recourse to second-tier manner verbs. The translation from Turkish to English in (3b) is one such example (*geçmek* 'pass' → *sweep*). In the following example from Spanish, note how context is apparently sufficient for Vargas Llosa to convey manner of movement ('ten minutes of asphyxiation and pushes'), but not for his English translator:

- (23) a. Spanish original: ... *luego de diez minutos de asfixia y empujones, llegamos al pasillo de la entrada* ...  
(Vargas Llosa 1977: 106)  
'... after ten minutes of asphyxiation and pushes, (we) arrived at the entry-way ...'
- (23) b. English translation: ... *after ten minutes of nearly being smothered or crushed to death, we finally fought our way to the exit* ...  
(Vargas Llosa 1982: 86)

The limited lexicon of second-tier manner verbs in V-languages, along with the constraints on foregrounding manner discussed above, provide another impetus towards scene-setting in V-language narratives. For example, in (17) we are told that the protagonist 'started to walk through the mud and stones of a path that led to the town'. Although one might picture someone who *trudges* or *drags himself* along, such inferences are left to the imagination of the reader. In V-language novels one frequently finds detailed descriptions of the protagonist's inner states or of the nature of the terrain — in the absence of detailed description of manner of movement — perhaps reflecting typological constraints on the encoding of manner.<sup>6</sup>

### 3. Consequences of Typology for Language Acquisition

In learning a language of a particular type, the child is trained to "think for speaking" in terms of the distinctions that are codified in the lexicon and grammar of the language (Slobin 1991, 1996a; Berman and Slobin 1994, Chapter VB). The world or the human perceptual system do not naturally present the categories of motor patterns which English codes as *creep*, *crawl*, *slither*, *scuttle*, *scramble*, *scurry*, and the like — as anyone learning English as a second language will attest to. Nor is there anything outside of the experience of growing up in an S-language or a V-language environment that tells the child that boundary-crossing is or is not *grammatically* significant or that the preferred lexical system for talking about translational motion is to be found in verbs or satellites. All of this comes, of course, from linguistic interchange with members of the speech community.

We have almost no data on how parents and small children converse about motion in different types of languages. In a preliminary study at Berkeley, Shira May, Rosanna Mucetti, Gail Solomon, and I have begun to code transcripts of naturalistic adult-child conversations in English and Spanish, in the age-range of 2 to 3 years. The English data are from the US and the Spanish data from Spain; the families are college-educated professional. It is too early to report systematic findings, but the overall impression of the two language samples suggests that the contrasts between S- and V-languages at the level of adult narrative are present in these early home contexts as well. For example, the following are typical of English-language interactions between parents and a child who has just turned 2. Note the use of directional satellites and prepositional phrases encoding ground elements.

#### (24) English-speaking parents and 2-year-old:

- Father: *Not on the floor, honey. Put it up on the table.*  
 Child: *Gonna put it on my floor?*  
 Father: *No, honey, put it up on the table.*  
 Child: *Table up?*  
 Father: *Yes, up on the table.*  
 Mother: *Be careful — you'll fall right off the bed, on your head.*  
 Child: *Georgie's going under there.*  
 Mother: *What are you doing?*  
 Child: *I climbing up.*

A sample of 783 tokens of motion verbs used by parents and child includes the following verbs of manner of self-movement: *crawl, creep, dance, dive, fly, hop, jump, ride, run, ski, skip, slide, slip, speed, swim, tumble, walk*.

The Spanish sample is strikingly different. Almost all of the motion verbs occur without mention of grounds, except for reminiscences of past events and planning of future outings, presumably because those grounds are not physically present. In context, locations are often simply referred to with deictic expressions. Directional adverbs are used along with verbs, but generally with no mention of source or goal. For example:

(25) *Spanish-speaking parents and 2-year-old:*

Father: *Ven, sube arriba.* ('Come, ascend up.')

Child: *No, abajo.* ('No down')

Father: *Abajo, pero vamos a bañarnos primero, y luego vamos abajo.* ('Down, but we're going to bathe ourselves first, and then we go down.')

Father: *Déjalo ahí encima hasta que termines de desayunar.*

Mother: ('Leave it up there until you finish breakfast.')

*¿Quieres salir de ahí?*

Mother: ('Do you want to exit from there?')

Child: *Aquí no se pueden guardar porque se caen.*  
('They can't be kept here because they fall.')

*Me voy a subir aquí.* ('I'm going to ascend here.')

A sample of 1,284 tokens of motion verbs used by parents and child includes a small number of "first-tier" verbs of manner of self-movement: *andar* 'walk', *bailar* 'dance', *caer(se)* 'fall', *correr* 'run', *escapar(se)* 'escape', *montar* 'mount, ride', *nadar* 'swim', *saltar* 'jump'. Clearly, the Spanish-speaking child is not being called upon to distinguish manners of motion of the S-language variety, nor to encode path-ground relations that are physically evident in context.

#### 4. Conclusion

In sum, there is a great deal of suggestive evidence that lexicalization patterns lead speakers to describe motion events in typologically distinct ways. As a result, it is possible to characterize the narrative style that seems to emerge from the use of a particular type of language. The linguistic facts are the following:

If a language uses verbs to lexicalize translational motion, it apparently also adheres to the boundary-crossing constraint. As a consequence, many components of an extended trajectory must be encoded in separate verbs. If a language uses satellites to lexicalize translational motion, by contrast, such components can be accumulated in association with a single verb. Furthermore, that single verb is free to express manner of movement. The proposed stylistic consequences are mirror images of one another. Stated in terms of S-languages, in comparison with V-languages, narratives will be characterized by:

- more ground elements per verb;
- more path elements per trajectory of extended motion;
- more frequent and more differentiated expression of manner of movement;
- less scene-setting (descriptions of physical locations, terrain, etc.).

Much more work needs to be done with regard to all of these suggestions, using tools of both crosslinguistic and psycholinguistic investigation. As more data are gathered for the proposals offered here, we will better understand the complex interplay between lexicon and syntax in characterizing styles of language use in terms of linguistic typology. These preliminary speculations are offered to Talmy Givón in the spirit of his quest for mind, code, and context.

#### Notes

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1. The research group has included a number of students and colleagues, too numerous to list here. The current analysis is the result of collaboration in the 1995-96 academic year with Heike Behrens, Lucinda Camões, Jane Edwards, Roni Henkin, Reyna Lindert, and Sarah Taub.
2. These findings are preliminary, so exact statistics are not presented here. A systematic comparison of 100 motion events in each of two languages, English and Spanish, can be found in Slobin (1996b). The patterns discussed here come from examination of several hundred verbs drawn from literary texts in the following languages: *Satellite-framed: English* (Anaya 1972; Burroughs 1914; Doyle 1892 [coded by Kyoko Hirose Ohara]; du Maurier 1938; Fowles 1969; Hemingway 1941; Lessing 1952; London 1906; Michener 1978; Montgomery 1908 [coded by Kyoko Hirose Ohara]; Tolkien 1937 [coded by Berkeley research group]); *German* (Grass 19; Lenz 19); *Dutch* (Multatuli 18); *Russian* (Aksenov 196; Dostoevsky 18; Gorky 19); *Verb-framed: French* (Gattégno 1994 [coded by Eve Clark]; Sand 1833; Thériault 1981); *Spanish* (Allende 1982; Cela 19; Lynch 19; Donoso 1983; García Márquez 1967; Murena 19; Pérez Galdós 1892; Quiroga 19; Sabato 1988; Vargas Llosa 1977); *Turkish* (Başar 1992; Füzüzan 1974; Kemal 1970; Livaneli 1979; Pamuk 1990); *Japanese* (Murakami 1991; Yoshimoto 1988 [both coded by Kyoko Hirose Ohara]).

3. The research was carried out at 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 Aarsen, 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, Ludo Verhoeven.
4. Japanese follows a different pattern, with a large collection of "mimetics" — but that goes beyond the scope of this chapter.
5. Hebrew appears to be an outlier, for reasons which may be peculiar to the translation of this particular chapter. There is much movement of eagles, and the book was translated into Hebrew by members of the Israeli airforce. Therefore there are specialized terms, such as *canax* 'parachute', *himri* 'take off', *nasak*, 'take off', *naxat* 'land', which may not be representative of the use of manner verbs across the board in Hebrew. The translation of this chapter has 25 types of manner verbs, of which 4 or 5 may be such specialized terms. In general, however, it seems that Hebrew — and also Turkish — conform to the proposal that V-languages have smaller lexica of manner verbs.
6. In pilot studies of mental imagery, English- and Spanish-speaking subjects have been asked to read translationally equivalent passages from novels. Preliminary findings suggest that English-speakers experience more frequent and more vivid images of manner of motion than do Spanish-speakers reading texts such as (17), which do not contain second-tier verbs of manner. That is, most Spanish speakers who have been tested report no mental imagery of manner of motion after reading extended passages with descriptions such as 'started to walk through the mud and stones of a path...', whereas most English speakers report mental images corresponding to verbs such as *trudge along*, *stumble over*, *slosh through*.

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