Linguistic representations of motion events: What is signifier and what is signified?

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Any discussion of iconicity requires clear definitions of both signifier and signified. Such definitions are far from obvious, as I will discuss with regard to linguistic descriptions of motion events in different types of languages. Consider the framework proposed in the call to the conference that underlies this volume:

Iconicity as a semiotic notion refers to a natural resemblance or analogy between the form of a sign (‘the signifier’, be it a letter or sound, a word, a structure of words, or even the absence of a sign) and the object or concept (‘the signified’) it refers to in the world or rather in our perception of the world.

What sort of resemblance or analogy is “natural”? (What would an “unnatural resemblance” be?) What part of the linguistic message is to be considered the relevant “form of a sign” for a particular resemblance or analogy? And, most difficult for a psychologist, what are the referents for the terms “object” and “concept”—two very different notions; and what cognitive activities or states are to be construed as “our perception of the world”? In fact, we are dealing with mental constructs on both ends of the equation: construals of linguistic forms and construals of nonlinguistic experiences.

We need concrete cases. And that, of course, is the goal of conferences and volumes such as represented here. My concrete case comes from ongoing psycholinguistic research on how people speaking different languages describe events of animate motion, with some preliminary suggestions about how they might conceive of such events. The events in question involve an animate being moving along a directed path, expressed linguistically using a verb of motion, a directional element, and possible mention of one or more associated ground elements (source, medium, way-station, goal). Because speech cannot depict movement in space, possible forms of iconicity must be of the sort termed “diagrammatic.” Again, quoting from the conference call and associated website (see footnote 2):

When we have a plurality of signs, the analogy may be more abstract: we then have to do with diagrammatic iconicity which is based on a relationship between signs that mirrors a similar relation between objects or actions …

Again, two sorts of construals: we have to know what counts as “a relationship between signs” and how to find the mental equivalent of “a similar relation between objects or actions.” The example offered in the conference call is simple: temporal order in speech can parallel temporal order of events, as in the famous “veni, vidi, vici” of Caesar. In order to seek out diagrammatic
iconicity in the domain of motion events, however, more work is needed. First I will propose a
linguistic typology of motion event description, noting that the languages of the world provide us
with considerable crosslinguistic variation with regard to the form of the signifier. Then I will
present evidence that speakers of different languages appear to conceptualize motion events
differently, precisely on the basis of the form of the signifier. That is, signifier and signified do
covary, but these are not independent actors on the mental stage. Rather, the signified appears to
be dependent on the signifier. If this is true, then we cannot independently define “an object or
concept … in the world or … in our perception of the world.” Accordingly, we lose the “natural”
resemblance between signifier and signified—if by “natural” we mean an automatic and universal
consequence of human cognition. Rather, we have a linguistically relative resemblance between
the two. If this is true, is there still a role for iconicity with regard to motion events? I suggest
that there is—but that iconicity cannot simply be discerned from an “objective” description of
signifier and signified.

What’s in a motion event?

Consider a simple event—you see a man, John, running into a room—and you take your image of
this event as the “signified.” What is this event “in our perception of the world”? There is a
moving figure (single human male) in motion, moving in a particular manner (running) forward
along a path that crosses a boundary into a goal location (a room). But is that all? Compare
what happens to this “simple event” as it is filtered through the signifier systems of various
languages. The event can be simply reported in English with a linguistic element for each
perceptual/conceptual element, except for the verb, which conflates motion and manner:

(1) John ran into the room.
    FIGURE MOTION+MANNER PATH GOAL

The sentence seems to neatly diagram the components of the event. Of course, the order of
elements can vary, as in the Dutch version in (2); but since the elements occur simultaneously in
perception, word order can’t be taken as an icon of event order. That is, there doesn’t seem to be
any temporal order to the configuration of event elements.

(2) Jan rende de kamer binnen.
       John ran the room in
    FIGURE MOTION+MANNER GOAL PATH

But how can we determine the “basic elements” of a motion event? German seems similar to
English and Dutch, but something is added:

(3) Johann lief ins Zimmer hin -e
       John ran into:the room thither in
    FIGURE MOTION+MANNER PATH GOAL DEIXIS PATH

Again, we have a conflation of motion and manner; but we also have the addition of spatial deixis
(underlined). German requires the speaker to take a viewpoint perspective on the event: away from
(hin-) or towards (her-) deictic center. Notice, too, that path marking can surface in two different
forms and locations in the signifier construction: the preposition in and the verb particle -e.

What is the “main event” according to the syntax of these expressions? In these three
Germanic languages, it is a verb that conflates motion + manner. But either path or deixis could
be construed as central from a syntactic point of view. In Korean, for example, the main verb is a
dctic expression, and both manner and path are subordinated to it, as indicated by the
connective (CONN) suffix –e on the verbs meaning ‘run’ and ‘enter’ in (4). Note, too, that the
syntactic position of goal is not determined by conceptual factors, but rather is constrained by the
overall syntactic typology of the language. Korean is a verb-final language, and arguments
precede their heads in such languages.

(4) John -i pang -ey tuwui -e tul -e o -ass -ta
   John SUBJ room LOC run CONN enter CONN come PAST DECL
   FIGURE GOAL MANNER PATH DEIXIS

In Romance languages, however, the main verb must indicate path, while manner is subordinated
and there is no way to easily include deictic perspective in the construction. And because these
are verb-medial languages, the goal follows the verb, as does the manner expression. For
example, the French equivalent expression would be:

(5) Jean est entré dans la chambre en courant
   John entered in the room in running
   FIGURE PATH GOAL MANNER

Looking across a wide range of languages of different types (Slobin, 2003), there is no
evidence for a “natural” ordering of these elements of motion events. And even within a
language, ordering is subject to morphosyntactic constraints. For example, in Dutch and German,
changing from preterit to perfect tense automatically changes the order of elements. Thus the
equivalent of (3) becomes:

(6) Johann ist ins Zimmer hin -ein -gelaufen.
   John is into:the room thither in run.PARTICIPLE
   FIGURE PATH GOAL DEIXIS PATH MOTION+MANNER

Perhaps, then, iconicity is simply not at issue with regard to the linguistic expression of
motion events. Maybe the lexical and morphosyntactic tools of any given language constrain the
form of the signifier, while the signified remains in a conceptual realm that plays no role in
determining the relation between signifier and signified. There are reasons, however, to avoid
this conclusion. Languages differ significantly in their preferred means of encoding event
types—in this instance, motion events. And there is growing evidence that these differences are
reflected both in habits of speaking about motion events and in patterns of conceptualization of
such events. Let us first look more closely at crosslinguistic differences in the degree of analysis
of events—what might be referred to as granularity of encoding.

**Granularity of event segmentation**

So far, the languages we have considered differ only with regard to the element of deixis;
otherwise, they all analyze motion events into FIGURE, MOTION, PATH, MANNER, and
GOAL; we can now generalize GOAL to GROUND, in order to include source, landmark, and

First, consider how many GROUND elements can be expressed in a single clause.
Translation is a useful comparative tool in this regard (Slobin 1996, 1997, in press a). Compare
the following sentence from *The Hobbit* (Tolkien 1937), written in English, with its French
translation:
(7) *He still wandered on, out of the little high valley, over its edge, and down the slopes beyond.*

(8) *Il continua d’avancer au hasard, sortit du haut vallon, en franchit le bord et descendit la pente au-delà.*

‘He continued to advance aimlessly, exited from the high small valley, crossed the edge of it and descended the slope beyond.’

Tolkien’s English allows him to compactly package a series of three ground elements in relation to a single verb of manner-of-motion along with a collection of locative elements indicating PATH. This is impossible in French, where each verb is, itself, a PATH expression; consequently, the translation requires four verbs in order to maintain all of the GROUND elements. Examination of writing in French, along with volumes of * stylistique comparée* (Vinay & Darbelnet 1958; Malblanc 1944), indicate that sentences such as (8) are vanishingly rare in French, as they are in other Romance languages as well. Rather, the narrative strategy in such languages is to devote a good deal of attention to the settings in which successive events take place, leaving it to the reader or listener to infer path components—or, most typically, simply to ignore such components. To the extent that patterns of narrative expression reflect patterns of conceptualization (more of this later, with empirical evidence), we can conclude that the plane of the signifier directly influences the plane of the signified.

To this point, the examples have been drawn from two groups of Indo-European languages, Germanic and Romance. However, the two patterns of motion event description represent a much broader typology, based on lexicalization systems rather than genetic or areal language grouping. The remainder of this chapter focuses on two major types of languages, categorized by Talmy (1985, 1991, 2000) on the basis of their dominant lexicalization pattern for motion events. The classification is based on the preferred means of encoding PATH. In one type, *verb-framed*, PATH tends to be encoded in the main verb of a clause, using verbs with meanings such as ‘enter’, ‘exit’, ‘ascend’, ‘descend’. Verb-framed language groups include Romance, Semitic, and Turkic, as well as Basque, and Japanese. In the other major type, *satellite-framed*, PATH tends to be encoded by elements associated with the main verb—‘satellites’—such as verb particles and affixes. The corresponding PATH expressions in satellite-framed languages are versions of ‘go in / out / up / down’. Satellite-framed language groups include Germanic, Slavic, and Finno-Ugric.3

**Manner of Motion**

The two language types also differ systematically in the attention they pay to MANNER of motion. Notice that MANNER is encoded by the main verb in the Germanic language examples in (1), (2), (3), (6), and (7), whereas it is subordinated in the French examples in (5) and (8) and the Korean example in (4). (For broad purposes of comparison, Korean can be considered along with verb-framed languages, because PATH must be expressed by a verb rather than a satellite.) Because PATH is expressed outside of the verb in satellite-framed languages, the verb is free to add nuances of MANNER without further elaboration; by contrast, such information often requires

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3 For a more fine-grained typology, with applications to the full collection of semantic components of motion events, see Slobin (2004). Talmy includes serial verb languages (e.g., Mandarin, Thai, Ewe) in the satellite-framed typology, whereas Slobin introduces a third type, *equipollently-framed*, for serial verb, bipartite verb, and generic verb languages. These distinctions are not relevant to the more general purposes of the present chapter, for which the distinction between verb- and satellite-framed is sufficient.
various sorts of adjunct and subordinate constructions in verb-framed languages, such as adverbs and adpositional phrases.

**From Typology to Language Use**

A typological categorization, in and of itself, cannot address questions of iconicity. What is needed, to begin with, is to establish links between patterns of lexicalization—the plane of the signifier, and patterns of conceptualization—the plane of the signified. Further, such links must be placed in an explanatory framework that provides a non-arbitrary relation between the two planes. The first step is to demonstrate differing patterns of use in the two types of languages, drawing on data of linguistic production. The subsequent step is to search for evidence that patterns of production reflect conceptual structures. Such evidence must come from linguistic reception, that is, measures of comprehension, mental imagery, and memory for verbally received information. This is part of a continuing research program in a number of cognitive science laboratories around the world (see references in footnote 4; Boroditsky 2000; Gentner & Goldin-Meadow 2003). Here I will only sketch out some of the main lines of evidence in the domain of motion events, in order to return to the orienting question of iconicity in language.

**Encoding of Motion Events: Cross-typological Comparisons of PATH**

A range of studies present evidence that speakers of satellite-framed languages tend to encode more PATH segments in narratives and conversations, as compared with speakers of verb-framed languages. A useful research tool has been the elicitation of narratives using a picture storybook, *Frog, where are you?* (Mayer 1969), that presents a rich and transparent plot without words. “Frog stories” have been gathered in dozens of languages of different types (Berman & Slobin 1994; Strömqvist & Verhoeven 2004), allowing for detailed crosslinguistic comparisons of narrations of objectively identical scenes. With regard to PATH complexity, the following examples are not unusual in satellite-framed languages, though they are exceptionally rare in verb-framed languages:

(9) **ENGLISH:** They decided to walk outside the house down to the back of the garden out into the bit of a forest there.

(10) **GERMAN:** Plötzlich fällt der Hund aus dem Fenster von dem Fensterbrett herunter. ‘suddenly falls the dog out of the window down hither from the windowsill’

(11) **RUSSIAN:** Iz-za kammja olen’ ry-skočil. ‘from-behind (a) rock (a) deer out-jumped’

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4 Throughout this chapter I make repeated reference to various studies that my collaborators and I have carried out on the psycholinguistics of motion events. Rather than cite these studies repeatedly, they are all listed in this footnote, with a brief indication of their topics: Slobin (1996a): thinking for speaking; Slobin (1996b): PATH and MANNER in English and Spanish novels and translations; Slobin (1997): PATH and MANNER in novels, translations, frog stories, child language; Slobin (2000, 2003): cross-typological salience of MANNER and implications for cognitive consequences of linguistic determinism; Slobin (2004): detailed crosslinguistic examination of frog stories on all components of motion events, with revised typology of lexicalization patterns; Slobin (in press a): comparison of translations from English into a number of languages of different types, with consequences for translation; Slobin (in press b): extension of the typological/psycholinguistic argument to fictive motion (“paths of vision”); Slobin & Hoiting (1994): proposed universals of motion event expressions, grounded on psycholinguistic and typological arguments.
It seems that the psycholinguistic ease of “packaging” a number of PATH components in a single clause engenders a “narrative habit” of PATH elaboration in satellite-framed speakers. The figures in Table 1 (from Slobin 2004) provide a striking quantitative comparison of speakers of the two language types with regard to the number of PATH segments in an episode in the frog story in which a little boy gets entangled in the antlers of a deer, who carries him to the edge of a cliff and dumps him off over a cliff down into a pond. (Note the typically satellite-framed way of summarizing this event in English.) Speakers of satellite-framed languages tend to mention more path segments than speakers of verb-framed languages (about three versus two), and a greater proportion of satellite-framed language speakers do so (about 80% versus 30%).

Table 1. Path Segmentation in the Frog Story Scene of the Fall from the Cliff

<table>
<thead>
<tr>
<th>SATELLITE-FRAMED LANGUAGES</th>
<th>VERB-FRAMED LANGUAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Languages</td>
<td>Average number of event segments</td>
</tr>
<tr>
<td>Germanic</td>
<td>3.0</td>
</tr>
<tr>
<td>(Dutch, English, German, Icelandic, Swedish)</td>
<td></td>
</tr>
<tr>
<td>Slavic</td>
<td>2.8</td>
</tr>
<tr>
<td>(Polish, Russian, Serbo-Croatian)</td>
<td></td>
</tr>
</tbody>
</table>

Verb-framed language speakers, by contrast, pay more narrative attention to the physical environments in which motion events take place, perhaps allowing PATH details to be inferred rather than explicitly communicated. Differences such as shown in (12)–(16) are typical, and are reflected in significant numerical differences between the two language types. For example, compare the compact and dynamic presentation of the “fall from the cliff” in English and German, as contrasted with the attention to static scene-setting in Spanish, Hebrew, and Turkish:

(12) **ENGLISH:** And he starts running. And he tips him off over a cliff into the water. And he lands.

(13) **GERMAN:** 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 the cliff right into the water.’

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5 The data come from ten adult frog stories in each of the languages. 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 Ragnarssóttir, Judy Reilly, Svenka Savić, Magdalena Smoczyńska, Anat Stavans, Sabine Stoll, Sven Strömqvist, and Ludo Verhoeven.
These analyses of path complexity versus scene setting in frog stories apply equally well to cross-linguistic comparisons of texts drawn from creative fiction, newspaper reports, and translations between the two language types, as well as recordings of spontaneous conversations. Across all of these genres, speakers/writers of satellite-framed languages tend to present more detailed, granular path descriptions than speakers/writers of verb-framed languages.

**Encoding of Motion Events: Cross-linguistic Comparisons of MANNER**

The same range of studies listed in footnote 4 also present evidence that users of satellite-framed languages tend to encode more MANNER information in narratives and conversations, as compared with users of verb-framed languages. This is probably due to the fact that the encoding of MANNER in the main-verb slot of a motion-event clause does not pose as great a burden on processing complexity as does the encoding of manner in an adjunct expression. In addition, the possibility of encoding several path components in satellites associated with a single verb makes it easy to “spread” MANNER across a series of path components. For example, compare a sentence from a novel written in English with its translation into Spanish in (16).

<table>
<thead>
<tr>
<th>(16)</th>
<th>English original</th>
<th>Spanish translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I ran out the kitchen door,</td>
<td>Salí por la puerta de la cocina</td>
<td>‘I exited the kitchen door’</td>
</tr>
<tr>
<td>past the animal pens,</td>
<td>pasé por los corrales</td>
<td>‘passed by the animal pens’</td>
</tr>
<tr>
<td>towards Jasón’s house.</td>
<td>y me dirigí a casa de Jasón</td>
<td>‘and directed myself to Jasón’s house’</td>
</tr>
</tbody>
</table>

The necessity to use separate main verbs to encode path segments leaves the Spanish translator with a dilemma: it would be redundant to repeat manner (corriendo ‘running’) for each clause,
and specifying MANNER only for the first clause would suggest that there was a subsequent change in motor pattern. Users of verb-framed languages specify MANNER in clauses with PATH verbs only when motor pattern or rate of movement is really at issue, and they rarely do so when describing events that include several GROUNDs of motion. Figure 1 presents an illustrative example, comparing English with two verb-framed languages of different types, Turkish and Spanish. The graph summarizes descriptions of motion events in ten frog stories and nine novels in each language—that is, a comparison of picture-elicited narratives and creative fiction, drawing on hundreds of motion scenarios. The database includes all motion events in which intransitive verbs are used to describe the voluntary motion of an animate figure along a path. It is clear that users of English encode MANNER more than twice as frequently than users of Turkish and Spanish. The patterns are not changed by including counts of adverbial expressions of MANNER in the three languages; and similar patterns hold up with addition of data from German and Russian (satellite-framed) versus French and Hebrew (verb-framed).

Figure 1. Percentage of Motion Events Described by Manner-of-Motion Verbs (Intransitive Tokens)
in Adult Frog Stories and Novels

The two language types also differ with regard to the granularity of conceptual space in the domain of MANNER. Satellite-framed languages tend to have many more types of manner verbs than do verb-framed languages—two to three times as many in the languages I’ve examined. This is probably due to the ease of encoding MANNER in satellite-framed languages, which engenders—over time—a predisposition to attend to this domain. Consequently, the learner and user of a satellite-framed language has to pay attention to finegrained distinctions that are ignored in verb-framed languages. For example, an English-speaker learns to distinguish many types of rapid bipedal motion that may fall into a smaller set of contrasts in Spanish or Turkish: run, jog, lope, sprint, dash, rush, hurry, scurry, scramble, and so forth.

Again, only a limited demonstration will suffice to make the point here. In a study comparing translations of Chapter Six of The Hobbit in a wide range of languages of the two types (Slobin, in press a), we have found a consistent pattern of reducing several English verbs to one or two verbs in verb-framed, but not in satellite-framed languages. An excerpt from the findings is given in Table 2. Note that three English verbs correspond to three verbs in Serbo-Croatian, another satellite-framed language, but to only one verb in French and Turkish:
Table 2. Translations of Several Verbs from English into Serbo-Croatian, French, and Turkish

<table>
<thead>
<tr>
<th>English original</th>
<th>Serbo-Croatian</th>
<th>French</th>
<th>Turkish</th>
</tr>
</thead>
<tbody>
<tr>
<td>run, scramble, scuttle</td>
<td>trčati, leteti, kaskati</td>
<td>courir</td>
<td>koşmak</td>
</tr>
<tr>
<td>climb, clamber, swarm</td>
<td>pentrati, peti se, koprčati</td>
<td>grimper</td>
<td>tirmanmak</td>
</tr>
</tbody>
</table>

A similar picture is found in translations from a verb-framed into a satellite-framed language. For example, French bondir doesn’t distinguish between the manners of motion encoded in English by jump, leap, bound, spring, skip, gambol; Spanish escabullirse can be translated as creep, glide, slide, slip, slither.

These few examples indicate that conceptualizations of the signified—in this instance, PATH and MANNER of motion—are not independent of the signifier language. That is, it is not prelinguistically evident what one should consider to be “the object or concept [that the signifier] refers to in the world or rather in our perception of the world” (footnote 2). Rather—at least on the plane of expression—signifier and signified are two sides of a single coin. But because the coins differ with regard to linguistic typology, can anything be concluded about iconicity in this domain? To consider this question, it is necessary to search for evidence that conceptualization differs according to the language being used—that is, evidence for linguistic relativity.

**Conceiving of motion events: typological influences on attention and memory**

There is a growing body of theoretical discussion and empirical evidence for linguistic relativity (see papers in Gentner & Goldin-Meadow 2003; Gumperz & Levinson 1996; Niemeier & Dirven 2000). A large range of studies point to effects of language on categorization, attention, mental imagery, memory, learning, and evaluation. I will only briefly mention several studies in the domain of motion and space (see references in footnote 4 for a more extended argument).

My students and I are carrying out research that supports the impression that there are major differences in mental imagery between speakers of satellite- and verb-framed languages. We give English and Spanish speakers passages to read from novels, later asking them to report mental imagery for the narrated events. The examples are from Spanish novels, in which manner verbs are not used, but in which the author provides information about the nature of the terrain and the protagonist’s inner state, allowing for inferences of manner. English speakers are given literal translations of the Spanish texts. For example, in a selection from Isabel Allende’s *La casa de los espíritus (The house of the spirits)*, the following information was provided as part of a long paragraph:

**SPANISH ORIGINAL:** “Tomó sus maletas y echó a andar por el barrial y las piedras de un sendero que conducía al pueblo. Caminó más de diez minutos, agradecido de que no lloviera, porque a duras penas podía avanzar con sus pesadas maletas por ese camino y comprendió que la lluvia lo habría convertido en pocos segundos en un lodazal intransitable.”

**ENGLISH VERSION:** “He picked up his bags and started to walk through the mud and stones of a path that led to the town. He walked for more than ten minutes, grateful
that it was not raining, because *it was only with difficulty that he was able to advance along the path with his heavy suitcases*, and he realized that the rain would have converted it in a few seconds into an impassable mudhole.”

Not surprisingly, almost all English speakers report mental imagery for the protagonist’s manner of movement, using manner verbs such as *stagger, stumble, trudge*, as well as more elaborate descriptions, such as: “he dodges occasional hazards in the trail,” “he rocks from side to side,” and “slowly edges his way down the trail.” Surprisingly, only a handful of Spanish speakers from Mexico, Chile, and Spain provide such reports. The vast majority report little or no imagery of the manner of the protagonist’s movement, although they report clear images of the muddy, stony path and the physical surroundings of the scene. They often report having seen a series of static images or still pictures (“more like photographs”). Bilinguals tested in both languages systematically report more mental imagery for manner of motion, and less for physical surroundings, when reading in English, in comparison with Spanish. Such findings suggest that the actual conceptualizations of motion events may differ for speakers of typologically different languages—at least when conceptualizations are evoked by the verbal experiencing of such events through narrative.

A recent Berkeley doctoral dissertation by a Korean psycholinguist, Kyung-ju Oh (Oh, 2003) goes further, suggesting influences of linguistic habits on ongoing attention to visually experienced events. Oh presented Korean and English speakers with a series of video clips in which an individual carried out various activities, including motion events in different manners (strolling out of a building, trudging along a path, etc.). Recall that Korean is a verb-framed language. Subjects were monolinguals tested in their home countries. Later, the subjects were given surprise questions about their memory for details of the videoclips. The Koreans and Americans did not differ in memory for directionality of motion or for non-motion details such as the clothing and objects carried by the protagonist. But the Americans were significantly better at recalling details of manner of motion, such as length of arm swing, width of gait, and rate of motion. Note that these details are not explicitly encoded in verbs such as *stroll and trudge*; they constitute part of the sensorimotor image of such manners of motion. Oh suggests that English speakers—in the process of acquiring the lexically encoded distinctions of English verbs—come to attend to the relevant event components that distinguish the meanings of those verbs. Such attentional habits or predispositions can be revealed even when events are experienced nonverbally.

Finally, new experiments by Alan Kersten and collaborators (Kersten et al., 2003) show that covert attention to MANNER of motion can be revealed in learning tasks. Subjects viewed animated cartoons in which alien creatures moved along various unnamable paths in various unnamable manners (e.g., a six-legged creature moved towards another creature diagonally and then changed course, while alternately wiggling front and rear legs). Subjects were told that these aliens belong to four different species and they were to guess which species a creature belonged to by pushing one of four buttons. Each time they were told if they had been correct or not. English and Spanish speakers did not differ in how long it took them to learn to distinguish the four species on the basis of type of PATH, but English speakers were significantly better at learning to categorize on the basis of MANNER. Note that none of the dimensions was easily lexicalized in either Spanish or English. Yet English speakers seemed to be more sensitive to fine differences in motor patterns of directional activity—even in alien, six-legged creatures. Kersten concludes that people learn to attend to the sorts of event attributes that are regularly and prominently encoded in their language.
Rethinking iconicity

In conclusion, let us return to diagrammatic iconicity. In the domain of motion events, is there “a relationship between signs that mirrors a similar relation between objects or actions”? As an English speaker, I conceive of a man running into a house as a figure moving steadily forward in a particular manner until he crosses a boundary and ends up in an enclosure. The basic activity is running, and English perfectly diagrams my conceptualization. Running can carry a man anywhere, and this subsidiary fact about motion is expressed outside of the verb, in particles and prepositions. The event can be schematized as: “He ran in.” This is a perfect diagram of a figure, moving in a manner, changing location. English is beautifully iconic. However, if I speak Spanish, I find that Spanish is also beautifully iconic. As a Spanish speaker, I conceive of a change of state: a man is on one side of the threshold and then he is on the other side; as a result, he is in an enclosure. The basic activity is that of entering. The fact that the man ran—or walked or crawled—is of less importance; and, in any case, the motor pattern is independent of the change of state. So it is appropriate to say El hombre entró a la casa corriendo ‘the man entered to the house running’. The event can be only schematized by using the path verb: entró ‘(he) entered’. Running can’t be part of the reduced schematization in Spanish.

The point I’m trying to make is that there is a fit between signifier and signified, but it is not due to a “natural” resemblance between a pattern of speaking and a pattern of thinking or perceiving. Rather, the speaking and the thinking constitute a complex, dynamic entity. This intuition can be supported by introspections from speakers of the two types of languages. To me, as a native user of a satellite-framed language, motor activities propel an animate figure along a path. The motor activity is an inherent part of directed motion. Apparently users of verb-framed languages conceive of directed motion and motor activities as two rather separate event components. One cannot get into the minds of speakers of other languages, but the following comments from linguists suggest that verb-framed speakers conceive of manner verbs as activities and paths as places, rather than as integrated path/manner directional activities:

- **Spanish speaker** (Enrique Palancar, personal communication, 1996): “I never use manner verbs when I have some kind of path in mind; manner verbs are activity verbs.”
- **Hebrew speaker** (Roni Henkin, personal communication, 1997): “To do something ‘from X to Y’ is not directional for me. It must means that you are engaged in an activity while you are located (and implicitly moving) on a stretch of path.”
- **Japanese speaker** (Yo Matsumoto, 1996: 193): “…manner-of-motion verbs do not entail a geographical change of location… Verbs like hashiru [‘run’] … focus on the activity of the running motion and not on the change of location that results from the activity.”

In order to carry out the examination of iconicity, as set forth by the call to this conference, it is necessary to have an independent, relatively objective characterization of the signified—that is, “the object or concept [that is referred to] in the world or rather in our perception of the world.” However, if the signified is—inherently—partly determined by the signifier, where are we to base our referent points? I suggest that we turn to empirical observation of language in use—in natural contexts such as narrative and comprehension of narratives, and in experimental settings that seek to establish precise relations between aspects of particular linguistic forms and particular cognitive processes. This work needs to be done in an explicitly comparative framework—a framework that is not only crosslinguistic but also cross-typological. We will find natural reverberations between signifier and signified, but they may not be universal, and they are not necessarily based on “language-free” experiencing of the world. Because our human experience is so permeated by language, it may, in the end, not be feasible to treat signifier and signified as
two independent terms that enter into relations with one another as sovereign entities in the world. Perhaps we keep finding iconicity because there is no other way for a semiotic system to be created and used by human beings without a close fit between form and function. After all, is it possible to make a mold for a statue that does not conform to the shape and dimensions and substance of the statue?

References


