Reference to Movement in Spoken and Signed Languages: Typological Considerations
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REFERENCE TO MOVEMENT IN SPOKEN AND SIGNED LANGUAGES: TYPOLOGICAL CONSIDERATIONS[1]

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Talmy's Typology of Motion Events and their Expression

We begin with an attempt to apply Leonard Talmy's typology of motion events to sign language. This will lead us to add several more factors to the typology, as we attempt to apply it to both signed and spoken languages. This paper is thus a preliminary exploration of what can be learned about the linguistic expression of motion events when one makes crosslinguistic comparisons between types of languages in both modalities.

Talmy (1975, 1985) has proposed what he has called "an apparently exhaustive typology" (1985:62) of verbs of motion and location, based on three types of lexicalization patterns. Here we will limit ourselves to verbs of motion — that is, verbs that encode the movement of a figure through space. Talmy's three types of patterns are based on the category of information that is conflated with the "fact of motion" in a verb stem. That is, given that a verb encodes motion, the typology is based on the type of additional information that is typically conveyed in a monomorphemic verb form. We will refer to the three types of languages as "path-type," "manner-type," and "figure-type."

- In path-type languages the verb encodes movement along a particular directional path (e.g., 'enter', 'descend', etc.).
- In manner-type languages the verb indicates manner of movement and is neutral with regard to path, which is encoded by elements associated with the verb (e.g., 'run in', 'fly in', 'walk down', etc.).
- In figure-type languages the verb indicates what type of object is moving (e.g., 'small-shiny-spherical-object-moves'), and path is encoded by elements associated with the verb.

In a more recent typological analysis, using morphosyntactic criteria, Talmy (1991) focuses on whether the "core schema" — in this instance, directed motion — is encoded by the main verb of a clause or by some other element.[2] Such other elements are called "satellites," defined by Talmy (1991:486) as "the grammatical category of any constituent other than a nominal complement that is in a sister relation to the verb root." Satellites include a range of forms (1991:486):

> The satellite, which can be either a bound affix or a free word, is thus intended to encompass all of the following grammatical forms...: English verb particles, German separable and inseparable verb prefixes, Latin or Russian verb prefixes, Chinese verb complements, Lahu non-head "versatile verbs" (cf. Matisoff 1973), Caddo incorporated nouns, and Atsugewi polysynthetic affixes around the verb root.

Languages can be categorized according to the type of form that typically is used to map a figure to a path — a satellite or a verb. Talmy proposes a bipartite typology of construction types on this basis (1991:486):

> Languages that characteristically map the core schema into the verb will be said to have a **framing verb** and to be **verb-framed** languages. Included among such languages are Romance, Semitic, Japanese, Tamil, Polynesian, most Bantu (for the qualification, cf. Schaefer 1987), most Mayan, Nez Perce, and Caddo. On the other hand, languages that characteristically map the core schema onto the satellite will be said to have a **framing satellite** and to be **satellite-framed** languages, and included among them are most Indo-European minus Romance, Finno-Ugric, Chinese, Ojibwa, and Warlpiri.

Putting the two typologies together — the lexical and the constructional — path-type languages are verb-framed, and both manner- and figure-type languages are satellite-framed. This flows naturally from Talmy's definition of framing: The core schema of a motion event is movement along a path, and this information can be expressed either by a verb or a satellite.

The encoding of information about **manner of movement** differs in the two types of languages. In a satellite-framed language like English, manner is conveyed by the main verb: *He **walked** into the house, **ran** into the house, **crawled** into the house*, etc. In a verb-framed language like Spanish, manner is conveyed by additional means, such as a gerundive: *Entró **corriendo** a la casa* '(He) entered **running** to the house'. There are apparently no languages in which the dominant pattern consists of verbs that conflate path and manner.

Verbs of Motion in Sign Language

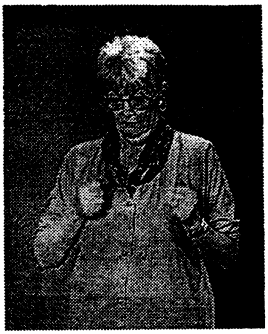
We have been studying narratives in the Sign Language of the Netherlands (SLN). This language, like ASL, is descended from Old French Sign Language. In this analysis, we focus on verbs of **directed motion** and **manner of locomotion**. These are intransitive verbs expressing the movement of an animate or inanimate figure. The characteristics of the verbs that we have studying seem to correspond quite closely to comparable forms in ASL.

A verb of directed motion in a gestural language, of necessity, moves through space. That is, space is used to represent space, and motion is used to represent motion. This is not to say that sign languages are iconic. There is, by now, ample evidence that the natural languages of the deaf are symbolic and

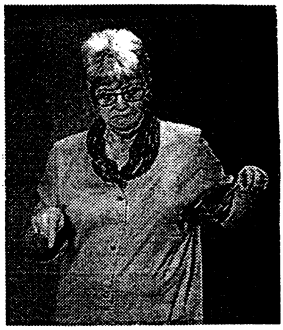
schematized systems of representation, consisting of conventionalized, discrete morphemes. However, because motion is used to represent motion, it is natural in sign languages to use a directed gesture to encode directed motion. This is because once one has set up loci in signing space, one cannot separate a moving gesture from the direction in which it moves. Such gestures can be classified as verbs on the basis of several types of criteria: marking of agreement and aspect, and scope of negation and interrogation. Sign languages are thus, by their very nature, path-type and verb-framed languages in terms of Talmy's typology. We would expect all natural sign languages to be of this sort.

The linguistic literature on sign language, however, does not come to this clear conclusion. At issue is the syntactic analysis of verbs of manner and verbs of motion. Ted Supalla and Elissa Newport (Newport & Supalla 1980; Supalla 1978, 1982) have analyzed ASL verbs as consisting of one of seven discrete movement roots. We will be concerned with the two basic **path roots** that move from one point to another: the **linear** root and the **arc** root. A path root can simultaneously convey directionality of various sorts, such as up or down, ending at a point in signing space or into contact with a sign made on the other hand; it can move laterally or in a deictic direction toward or away from the signer; and so forth. It can be inflected for features of both figure and manner (as discussed below). For purposes of this brief presentation we will focus on the simple one-handed linear and arc roots moving **to** or **from** an established spatial locus, along with two complex signs, using two hands, to represent entry into and exit out of an enclosure.

Supalla (1990) has recently proposed a serial-verb analysis for verbs of motion in ASL. We think that this approach is an important contribution, but we have a somewhat different serial-verb analysis to propose. Supalla considers constructions in which a verb of manner of locomotion, such as 'run', is followed by a path verb, such as 'move forward', 'move in a circle', or 'zigzag upwards'. In such constructions, the first verb uses a large part of the upper body. We will refer to this type of verb as a **manner verb**.[3] For example, the sign for 'run' involves making loose fists, bending the arms inwards towards the chest, and making several tight rotations of the forearms, with the shoulders and head moving slightly forward at the same time, as shown in Picture 1. This is followed by a more schematized **path verb**, in which one hand traces the path, such as a lateral movement. If the moving figure is a human being, this hand will assume a particular shape. Linguists of sign language refer to such handshapes as **classifiers** — for instance, a downward V-shape for a two-legged creature (Suppala 1986). Using such a classifier, the two fingers will wiggle while tracing the path, representing two-legged movement. Pictures 2 and 3 show the beginning and end points of such a verb. Manner is thus fully encoded on the first verb, with a reduced manner morpheme on the second verb — in this case, the wiggling of the fingers.[4]



Picture 1. RUN



Picture 2. APPROACH (begin)

Picture 3. APPROACH (end)

These two verbs — the manner verb and the path verb — are articulated in a smooth and continuous fashion, with no intervening break. They have the same subject, and the scope of aspect, negation, and interrogation applies to the two verbs as a unit. They are therefore appropriately treated as serial verbs, in accord with "the traditional perspective that has defined verb serialization as two or more verbs 'acting' as one verb" (Durie n.d.:52). Supalla (1990:149) considers the path verb to be reduced in form, in comparison with the manner verb. That is, the encoding of manner is fuller or more elaborated in the full-body verb than the following one-handed verb. He also considers the first verb to be "an independent, nonserial verb." On this basis, he concludes that, in terms of Talmy's typology (1990:151), ASL is a manner-type language, like English (and, by implication, a satellite-framed language in which a "reduced serial verb" serves as a satellite).

We propose a different analysis. Although we agree that the manner verb + path verb sequence can be seen as a serial verb construction, it is still evident that the "core schema" — namely, directed motion — is encoded by a verb, and not a satellite. Both forms are verbs, and either of them can stand alone as a full verb in connected discourse. In the serial construction, neither shows unequivocal signs of being a nonfinite form with respect to the other.

It is typical — perhaps universal — in serial-verb languages that a verb of manner precedes a verb of direction (Foley, pers. comm.).[5] The ordering of the two verbs in ASL is consistent with this pattern, with no evidence that the verb of manner is the "independent, nonserial verb" in the series. That is, we see ASL as a verb-framed language in which manner can be encoded both by an independent verb, and inflectionally on a path verb in a serial-verb construction.

We are more interested in a further type of serialization in both ASL and SLN: the type of serialization that is involved when two path verbs are combined.

As a prototypical example, consider the sentence 'The man ran into the house' — first in SLN, and later in various spoken languages. To begin with, one signs that the protagonist is a man and places the house in signing space. The initial verb of manner is the same as in the preceding example, using the arms and trunk to reference a running human figure (Picture 4). This is followed by a linear path verb, moving towards locus of the house, with the wiggling fingers indicating a human being running (Picture 5). If this sign were to end at the locus of the house, it would simply mean 'The man ran up to the house'. In order to indicate that the man entered the house, a second path verb is needed. This is an all-purpose verb meaning 'enter', with no handshape classifier (i.e., flat hand) and no inflection for manner (Picture 6). The three verbs are articulated continuously, with a "hold" at the end of the sequence, indicating completion of the event. This, also, is a serial-verb construction, in which the three verbs have the same subject and fall under the same scope, and each one has the form (as far as we can tell) of an independent verb. Each one can serve as the main verb of a separate clause and can take negative, interrogative, and imperative operators.

Picture 4. RUN

Picture 5. APPROACH

Picture 6. ENTER

The verbs are shown in in three frozen snapshots in Pictures 4-6. Note that the two-legged classifier is beginning to emerge on the index and middle fingers of the right hand in Picture 5, as RUN transmutes into APPROACH. The right hand will then continue moving towards the HOUSE locus, with the two fingers wiggling, while the left hand assumes a general 'cover' handshape. Finally, as shown in Picture 6, the right hand flattens into a palm-shape and slips under the left hand, signing ENTER.

The two path verbs, articulated without an intervening pause, mean 'approach-enter', and not 'approach and then enter'.[6] As Mark Durie has said in a recent paper on universals of verb serialization (n.d.:29): "...verb serialization has as a key distinguishing property that it is used to describe (what are conceptualized by native speakers as) single events, the individual verbs embodying different components of each event." And, again, it seems to be a universal that the order of concepts encoded in such constructions is MANNER - DIRECTION - GOAL (William Foley, pers. comm.).

We propose that 'the man ran into the house' is a single event to speakers of satellite-framed languages, as in this English version, as well as to speakers of verb-framed languages using serial verbs, as in SLN. We can schematize the SLN version as:

(1) MAN HOUSE RUN APPROACH ENTER.

Similar serial-verb orders can be found in spoken languages. To offer just two examples, from Asia and Africa, found at random in the literature:

(2a) *lan chay vào vuòn* [Vietnamese, Lord 1993:147]

Lan run enter garden

'Lan ran into the garden.'

(2b) *eri weni-ni ama suo-mi* [Ijo, Sebba 1987:145]

he walk-LINKER town enter-SIMPLE.PAST

'He walked into a town.'

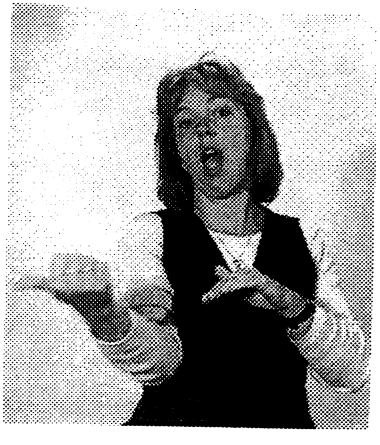
We suggest that ASL, SLN, and spoken serial-verb languages of this type, can all be characterized as **complex verb-framed languages**, in contrast to the more familiar **simplex verb-framed languages** described by Talmy.[7]

Types of Paths

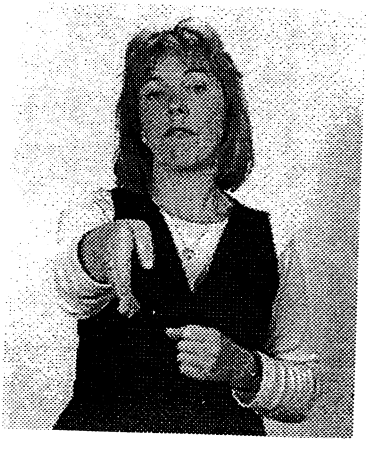
We have found only three types of serial path verbs in SLN. Two of them have to do with enclosures, as in entering a house — which we have just seen — and its opposite, leaving a house. This is signed with an all-purpose 'exit' sign followed by a linear path moving away from the source. The 'exit' verb is two-handed, with one hand forming an enclosure and the other moving out of it with a pointing thumb (Picture 7). This verb, like 'enter', does not carry a figure classifier. The following serial verb, like the 'approach' verb, is inflected for both figure and manner of motion. The third type of serial path verb indicates moving across a dividing line or boundary, such as crossing a street. Like 'enter', the first verb in the serial construction is a linear 'approach' path inflected for figure and manner, approaching the line of the street, previously set up from one side of the signing space to the other. The second verb is an arc path, with an all-purpose handshape — in this instance, a vertical, flat hand crossing over the line of the street (Picture 8). Each of these verbs can be preceded by a manner verb — such as 'walk', 'run', 'fly', 'swim' — to form a three-part serial verb construction.

Schematically:

(3) RUN-APPROACH-ENTER (='run in')
RUN-EXIT-DEPART (='run out')
RUN-APPROACH-CROSS (='run across')



Picture 7. EXIT



Picture 8. CROSS

What is special about 'enter', 'exit', and 'cross'? These are all paths that specify a particular configured relationship of figure to ground. When a figure moves to a point, it is simply **there** — located at that point in a simple relation of contiguity: If a man runs **to** a house he ends up being **at** the house; if he runs **away from** the house, he simply ends up being **not at** the house; and so forth. But if he runs **into** a house he ends up being **inside** of the house; if he runs **out of** the house, he begins by being **inside**; and if he runs across the street he is not simply **at** a point, but at a point that is **across** the street. Because location and motion are represented spatially in sign language, these configurations must be depicted — at least schematically. An interior space, as source or goal, requires a second, covering hand to provide the enclosure; crossing a boundary requires an arc, rather than a linear path, to indicate that the path is, in some sense, impeded.

On the basis of sign language, therefore, we propose that there are two kinds of path orientations. One type focuses on the path itself, moving in space from one "non-configured" point to another. We will refer to this type as **path-focused**. It corresponds to verbs such as *approach, depart, ascend, descend.* Such paths can be signed by a single, one-handed gesture, tracing the directionality of the path with regard to a starting point and an ending point. The more complex path orientation, represented by *enter, exit*, and *cross*, focuses on characteristics of the ground: enclosure or boundary. The endstate of motion is a

"configured" relation of figure to ground. Provisionally, we will refer to such paths as **ground-focused**. Such paths have a linear segment, which inflects for figure and manner (the wiggling fingers in our example), combined with a non-linear segment which is neutral with regard to both figure and manner (the special 'enter', 'exit', and 'cross' signs, with "non-classifier" handshapes).

Path Orientations in Spoken Verb-Framed Languages

Turning to spoken verb-framed languages, we find evidence for the same distinction between two types of path orientation. The evidence comes from the use of manner verbs with path expressions. Talmy's (1985:68-9) characterization of path-type languages explicitly blocks the use of a manner verb as the main verb describing a motion event:

> In the second typological pattern for the expression of Motion [i.e., path-type], the verb root at once expresses both the fact of Motion and the Path. If Manner ... is expressed in the same sentence, it must be as an independent, usually adverbial or gerundive type constituent. ... [I]t is not indicated by the verb root itself.[8]

Jon Aske (1989) has pointed out, however, that in Spanish, manner verbs can be used with path adverbials under some circumstances. For example:

(4) *La botella flotó hacia la cueva.*

'The bottle floated towards the cave.'

(5) *Juan nadó de la playa a la isla.*

'Juan swam from the beach to the island.

He suggests such manner+path expressions are licensed because they are not "telic path phrases"; that is, they do not "predicate a location ... of the Figure argument" (1989:6). Aske's identification of two types of path phrases — what he calls a "mere locative path phrase" and a "telic path phrase" — corresponds to the path-focus and ground-focus expressions that we have identified in sign language.

We have found numerous examples, in Spanish, of path-focus clauses with a main verb of manner of motion and an adverbial path phrase. The data come from elicited narratives gathered in Spain, Chile, and Argentina, and novels written in Chile, Argentina, Peru, and Colombia (Slobin in press). The following are examples of path descriptions of this sort. The first three are fairly simple, occurring in stories elicited by the picture storybook, *Frog, where are you?* (Mayer, 1969):[9]

(6) *Empezó a correr hacia el barranco.*

'(He) started to run towards the cliff.'

(7) *Camina rumbo a un precipicio.*

'(He) walks towards a cliff.'

(8) *El perro ya se ha saltado de la casa.*

'The dog already has jumped from the house.'

Such constructions, like Aske's invented examples, do not fit Talmy's typological description (or Jackendoff's constraint). They occur in all three Spanish-speaking countries, in both school-age and adult narrations. In novels, path descriptions with verbs of manner and directional adverbials can be fairly elaborate, such as the following three examples (Slobin, in press):

(9) *Los llevó a través de un laberinto de helados corredores hasta la sala que había preparado...*

'He led them through a labyrinth of icy corridors to the room that he had prepared.' (Allende 1982:213)

(10) *...Miguel se arriesgaba a entrar de día, arrastrándose entre los matorrales, como un ladrón, hasta la puerta del sótano...*

'...Miguel dared to enter by day, crawling through the bushes, like a thief, to the door of the basement...' (Allende 1982:294)

(11) *...pude caminar, sin grandes dificultades, por el callejón de entrada, entre los eucaliptos.*

'...I was able to walk, without great difficulty, along the entry lane, between the eucalyptus trees.' (Sabato 1988:129)

In all six of these examples, the verb describes only the path itself or the arrival at a goal, but without predicating a specific locative endstate except for proximity to a ground. Often the path moves through a medium — that is, the ground constitutes part of the path itself: 'through a labyrinth of corridors', 'through the bushes', 'along the entry lane between the trees'. When the ground is a goal, it is only approached, and therefore its particular locative features are neutral with regard to the verb: 'to the forest', 'towards a cliff', 'to the room'.[10]

The distinction between the two path types holds up across a range of verb-framed, path-type languages that we have checked with informants.[11] In every instance, a manner verb can be used with path-focus, but not ground-focus. Compare versions of 'The man ran into the house' and 'The man ran up to the house' in Spanish, French, Turkish, Japanese, and Korean. In the (a) versions a separate ground-focus verb is used and manner is expressed by a nonfinite verb-form, while in the (b) versions there is a manner verb combined with a path expression indicating the goal by use of an adpositional phrase or a noun with a locative marker.

Spanish:

(12a) *El hombre entró corriendo a la casa.*

'The man entered running to the house.'

(12b) *El hombre corrió hasta la casa.*

'The man ran up.to the house.'

French:

(13a) *L'homme est entré dans la maison en courant.*

'The man entered the house in running.'

(13b) *L'homme a couru jusque'à la maison.*

'The man ran up.to the house.'

Turkish:

(14a) *Adam koşarak eve girdi.*

'Man running house-DAT entered.'

(14b) *Adam eve kadar koştu.*

'Man house-DAT up.to ran.'

Japanese:

(15a) *Otoko wa ie ni hasitte haitta.*

'Man TOPIC house DAT running entered.

(15b) *Otoko wa ie made hasitta.*

'Man TOPIC house up.to ran.'

Korean:

(16a) *Ku salam-i cip-ulo ttwui-e tul-e kassta.*

'That person-SUBJ house-to run-CONNECTIVE enter-CONNECTIVE went.'

(16b) *Ku salam-i cip-ulo ttwui-e kassta.*

'That person-SUBJ house-to run-CONNECTIVE went.'

(Note that the main verb in Korean is a deictic — 'come' or 'go'. We will return to this later.)

The patterns reflected in these examples of 'enter' also apply to 'exit' and 'cross' in these languages. That is, all three of these paths must be expressed by a directional verb. Why should all of these verb-framed, path-type languages distinguish between the two types of paths, allowing manner verbs only with Aske's "locative path phrases" or our "path-focus" expressions? Aske treats prepositional phrases as non-verbal predicates, and goes on to suggest that, in Spanish, there is a general constraint against all resultative non-verbal predicates. We can reinterpret this constraint in terms of a typological tendency or preference to use a verb, rather than some other form, to indicate entry into any state. The restriction against non-verbal encoding of goal-focused locative states is simply one

instance of this tendency. Aske notes, for example, that Spanish "has nothing comparable to *Pat kicked the door open, We stood the pole erect*, or *She knocked the door down*" (1989:6).

This is, in fact, also true of SLN, and of all the spoken verb-framed languages that we have checked. Consider, for example, Aske's first example, 'He kicked the door open'. In SLN, and also in ASL, this is a two-clause construction:

(17) **Sign Language of the Netherlands (SLN):**

MAN KICK DOOR. DOOR OPEN.

In the spoken languages cited above, the main verb is 'open', and 'kick' is in a subsidiary phrase or clause:

(18) **Spanish:**

El hombre abrió la puerta de una patada.

'The man opened the door of a kick.'

(19) **French:**

L'homme a ouvert la porte avec le pied.

'The man opened the door with the foot.'

(20) **Turkish:**

Adam kapı-yı tekmeliyerek açtı.

'Man door-ACC kicking opened.'

(21) **Japanese:**

Kare wa doa o ket-te aketa.

'He TOPIC door ACC kick-COMP caused.to.open.'

(22) **Korean:**

Ku-ka mwun-ul cha-se yelessta.

'He-SUBJ door-ACC kick-CONNECTIVE opened.'

In all of these verb-framed languages we see a general preference to use a full, main verb to indicate a change of state. Rather than phrase this as a restriction against non-verbal predicates, in Aske's terms, we would rather speak in terms of a general preference toward verb-framing, across conceptual domains. That is, we take Talmy (1991:486) seriously in following his proposal that a language — overall — has a characteristic pattern of mapping the conceptual structure of events onto syntactic structure. In sign languages the pervasive pattern of verb-framing is motivated by the depictive character of the modality. We suggest that spoken verb-framed languages have a similar "depictive preference." To the extent that depiction is possible in a spoken language, it is the verb that is the most suitable vehicle for depicting changes of state.

Further Distinguishing of Path Types

We still have not adequately distinguished the depictions involved in what we have been calling path-focus and ground-focus orientations to motion scenes. Why should 'enter', 'exit', and 'cross' call for depiction by a separate verb, which apparently cannot indicate manner of movement? Talmy (pers. comm.) has suggested the answer: in all three of these cases, the figure crosses a boundary.[12] This seems to us — provisionally — to most adequately characterize the sort of configured relationship between figure and ground that we have been calling ground-focus. The SLN verbs for these three paths all have a component that indicates a boundary: (1) in signing 'enter', the active hand speeds up slightly and slips under the passive hand, coming to rest there; (2) in signing 'exit', the active hand begins in the contained location, and quickly emerges out from under the passive hand with a wrist-flick and thumb-point in the direction of exit; (3) and in signing 'cross', the active hand arcs over a boundary that has previously been traced in the air. We suggest that, in spoken verb-framed languages, the corresponding verbs have similar image-schematic, depictive qualities. Therefore, they stand alone, as main verbs, rather than in association with manner verbs. The core schema of 'enter', 'exit', and 'cross' is movement across a boundary, and not manner of movement. We therefore revise our terminology, calling the two types **path focus** and **boundary focus**.

This distinction is apparently of no interest to manner-type, satellite-framed languages. (We have no knowledge of figure-type, satellite-framed languages, such as Atsugewi.) In those languages, a great range of predicate types can be expressed outside of the main verb, in satellites. We have not yet explored possible reflections of path and boundary focus on the forms of satellites in those languages, and it is possible that the two types are distinguished by various means that we have not identified.

Varieties of Manner

When we consider the variety and richness of manner expressions across language types and modalities, we find a continuum. In the path-type languages that we have examined most closely — Spanish and Turkish — there is only a relatively small lexicon of verbs of manner (Berman & Slobin 1994). Even though such verbs can be used for the expression of path focus, they represent a marked option. Generally, pure path verbs are used — both the boundary-focus type, and non-manner path-focus verbs such as the equivalents of 'ascend', 'descend', and 'approach'. As Talmy (1985:69) pointed out in his formulation of the typology, independent constituents expressing manner, in such languages, "can be stylistically awkward, so that information about Manner ... is often either established in the surrounding discourse or omitted altogether." In manner-type languages, by contrast, there are rich lexicons of manner verbs. We have found this clearly in comparing our elicited narratives in English and German with those in Spanish and Turkish. In the Germanic languages, manner comes "free":

satellites encode path, and some non-path verb is needed to create a complete clause. Manner verbs are the neutral option in these languages.

This comparison can be clearly seen in examining translations from a path-type language to a manner-type language. In Slobin's (in press) study of novels written in English and Spanish, he also compared translations of novels in both directions. English translators often **add** manner information to Spanish originals, while Spanish translators very frequently **omit** manner information provided in English originals. He found that Spanish translators omit manner information about half of the time, whereas English translators actually add manner in almost a quarter of their translations. For example, the English translator of Vargas Llosa's simple path verb, *avanzar* 'advance, move forward', appropriately replaced it with the English manner verb, *walk*, without which the clause would sound stilted or strangely marked:

(23) *Don Federico avanzó sin apresurarse...* ('Don Federico advanced without hurrying...') (Vargas Llosa 1977:181)

Translation: Don Federico walked unhurriedly towards her... (Vargas Llosa 1982:150).

On the other hand, the Spanish translator of Michener simply found no equivalents for *bound* and *overtake*:

(24) ...he bounded up the stairs after her, overtaking her in the bedroom... (Michener 1978:615)

Translation: *...subió tras ella, alcanzándola en el dormitorio...* ('...he ascended after her, reaching her in the bedroom') (Michener 1980:458)

Sign languages provide the most elaborate expression of manner — not only manner of motion along a path, but many dimensions of manner and quality. Our presentation of the SLN version of 'The man ran into the house' does not present the full picture of the array of manner devices available to signers, because we did not attend to simultaneous information conveyed by the face and head. The position of the mouth and movement of the lips convey rate and intensity of movement, simultaneously with the manual gestures, and with scope over the entire serial-verb complex. Talmy (1985:132) has found that rate is not indicated inflectionally on verbs of motion in spoken languages, but this restraint does not apply to sign languages, with their capacity for simultaneous encoding of information on facial and manual articulators. (Rate can also be indicated by the speed of execution of the path verb.) Other aspects of facial expression, head orientation and movement, and body posture communicate dimensions of affect and evaluation in conventional ways that can only be considered linguistic rather than mimetic. In addition, the body-manner verb can indicate directionality of the path, in that the signer leans forward into the two-handed manner gesture, anticipating path orientation by means of this incipient movement. (Supalla [1991] calls this movement a "shortened path.") Thus some of the apparently universal linguistic constraints that have been identified may be due to the necessarily

linear nature of the vocal modality, rather than to inherent conceptual or grammatical constraints. That is, the use of the visual modality — with linguistic encoding marked simultaneously on hands, face, and posture — reveals a broader range of conceptual categories that can be semantically marked on verbs.

Motion + Ground

In some instances, SLN also inflects path verbs for characteristics of the ground — or perhaps characteristics of the nature of impact with a ground. We have noticed this with regard to the verb 'fall'. In our SLN elicited narratives from the picture storybook, *Frog, where are you?*, there are two different types of falling event. In one, a boy falls from a tree to the ground. This is a fall with a hard impact, and the descending arc gesture that expresses the fall ends with a sudden, rigid hold. In another scene, a boy falls from a cliff into a pond of water. Here the same gesture ends with a bounce, indicating contact with a non-solid or springy ground. The distinction is lexicalized in spoken languages, such as the distinction between *crash to the ground* and *splash into the water*. In sign — again, due to the depictive capacities of the modality — such distinctions can be inflectionally marked on the verb.

Deixis

Finally, it should be pointed out that directional deixis plays a key role in signed languages, in that a path verb moves not only with respect to source and goal, but also with respect to sender and receiver, as well as with respect to points that may be established in signing space to indicate the locations and viewpoints of protagonists set up in the discourse. Thus, for example, the signer can easily distinguish between 'The man came running into the house', as reported by an observer inside the house, and 'The man went running into the house', as reported by an outside observer. This is done by body posture, gaze direction, and sign movement with respect to locations in signing space. Furthermore, this information is conveyed simultaneously with all of the expressions of figure, ground, path, manner, rate, affect, and scope operators of tense and illocutionary force.

We noted in (16a) and (16b) that, in Korean, the main verb in motion clauses is a deictic, 'come' or 'go'.[13] This is often the case in Japanese as well. The following is an apparently more natural way to say 'The man ran into the house', with the main verb 'come' or 'go', depending on the viewpoint of the speaker:

(25a)*Otoko wa ie ni hasitte haitte kita.*

'Man TOPIC house DAT running entering came.'

(25b)*Otoko wa ie ni hasitte haitte itta.*

'Man TOPIC house DAT running entering went.'

In these verb-framed constructions the main verb does not indicate path, but deixis. We do not see this as an inherent contradiction of Talmy's typology, but rather as an inherent limitation of spoken language. If one wishes to indicate

deixis, it is done so with a separate element — a verb in Korean and Japanese, a satellite in a satellite-framed language like German (*hin-/her-* 'thither/hither'). The iconic order, if one must present verbs in linear order, seems to be to present a figure moving on a path which is, ultimately, anchored at the speaker: 'he entered the house moving toward me' or 'he entered the house moving away from me'. Following our classification of complex verb-framing, Japanese and Korean remain verb-framed languages, even if the main verb is not a path verb.

* * *

We wish to point out, in conclusion, that all of the dimensions that can be simultaneously encoded in sign languages can be arrayed in sequential morphemes in spoken languages. Given the constraints of linear presentation, however, spoken languages tend to omit many possible dimensions of expression unless they are foregrounded in discourse. This is due to modality, rather than factors inherent to the human language capacity. As Karen Emmorey (1993:156) has noted:

> Signed languages appear to have a greater capacity for expressing information simultaneously, which may be an inherent property of the visual system, compared to the auditory system, which appears to be particularly adept at distinguish fast temporal distinctions."

We would underline, therefore, that in order to fully understand the human potential for language, it is necessary to study the full range of human languages, in both the auditory and visual modalities.

NOTES

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2. Talmy's analysis applies to motion, location, aspect, event realization, and accompaniment — that is, to a wide range of conceptual domains, all of which are apparently uniformly mapped onto the same construction type in a language. Here we limit ourselves to motion events.

3. Supalla (1990:136) calls such verbs "locomotion verbs involving body classifiers," noting that they refer to "manner of locomotion of the agent" (p. 143). We refer to them as "manner verbs," with the understanding that "manner" refers to a type of movement, such as walk, run, crawl, swim, fly, etc.

4. Supalla (1990:143) refers to such inflections on path verbs as "local movements that refer to the manner of movement along the path, rather than manner of locomotion of the agent."

5. Note that this universal apparently does not apply to verb-framed languages in which the path verb is accompanied by a nonfinite manner verb, such as the Spanish gerundive construction: *entró corriendo* 'entered running'.

6. These serial verbs match Gee and Kegl's (1983) characterization of "doubled verbs" in ASL. Goodhart (1984:112-3) defines this construction as "two verbs which have identical themes and where the motion of the first verb flows continuously into the motion of the second. ... The two verbs together name a complex motion or action. Thus, they get the interpretation of a single verb."

7. We would therefore suggest that languages like Lahu be reclassified as complex verb-framed types, in which "versatile verbs" function more like verbs than satellites. Matisoff (1973:199) notes, in his Lahu grammar: "The Tibeto-Burman languages in general, and Lahu in particular, are remarkable for the apparent ease with which two or more verbs may be strung together or concatenated by a simple juxtaposition to form complex verbal nuclei." Most relevant here are the verbs of motion or directionality that occur directly after the head. Matisoff notes that these verbs "are as closely welded to the [verb-head] as are such English 'particles' as 'out' or 'away'" (221), yet they are apparently still verbs in form. Compare, for example, Lahu *gɨ̀ lɔ̀* 'run enter' and its English equivalent *run in*. In Matisoff's characterization of Lahu: "The verbs in a true concatenation ... form a single verbal idea, and are all deemed to belong to the same clause. They function as a semantic/syntactic unit" (1990:403). Looking across languages, it is evident to us that a clear line cannot be drawn between the categories of verb and satellite. Rather, there is a cline of "associated elements" to the head verb, as such elements tend to lose some characteristics of full verbs over time. Matisoff (1991), for example, documents a widespread development from verb to verb-particle in Southeast Asian languages. In this paper, we focus our attention on a language's tendency to encode paths in full verbs rather than in other types of elements. Perhaps it would be more appropriate, therefore, to speak of **verb-framed** and **non-verb-framed** languages. In this sense, languages like Lahu are at the verb-framed end of the cline.

8. Jackendoff (1990:224-5) proposes a similar restriction, noting that, in Spanish and Japanese, movement verbs cannot be combined with a path phrase, such as *Willy jumped his way into Harriet's arms*. With regard to Spanish, he states: "In the present case, Spanish has the syntactic pattern Verb + PP [prepositional phrase], but this pattern cannot be mapped into a conceptual structure if the verb is a MOVE-verb, since the language has no way to license the PP."

9. Data were gathered in Madrid by Eugenia Sebastián and in Buenos Aires and Santiago de Chile by Aura Bocaz. For details see Sebastián and Slobin (1994) and Slobin and Bocaz (1988).

10. In examples (6)-(11) a prepositional phrase provides path specification in conjunction with a main verb of manner of motion — with no "satellite" in Talmy's sense. It may be more useful, in crosslinguistic comparison, to simply speak of the encoding of path by "path verbs" versus "non-verbal path phrases."

11. We thank the following for providing examples from their languages: Soonja Choi (Korean), Suzanne Fleischman (French), Seiko Yamaguchi Fujii (Japanese), Maya Hickmann (French), Sotaro Kita (Japanese), Aylin Küntay (Turkish), Paulette Levy (Spanish), Kumi Tomiki (Japanese).

12. Jackendoff distinguishes what we have been calling path and ground focus in terms of the basic conceptual categories Path and State. In his analysis (1990:46), 'enter' has both a Path and a Place-function:

$$[_{\text{Event}}\ \text{GO}\ ([_{\text{Thing}}\ ]_i, [_{\text{Path}}\ \text{TO}\ ([_{\text{Place}}\ \text{IN}\ ([_{\text{Thing}}\ ]_j)])])]$$

As he points out: "*John entered* means not just 'John traversed some Path' but 'John went into something'." In a footnote (fn. 3, p. 290) he indicates that McCawley (1988), in an unpublished paper, has suggested that *enter* means something like "go across boundary of X into X."

13. For details on Korean, with implications for acquisition, see Choi and Bowerman (1991).

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