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## **Foreword: Past, present, and future of motion research**

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The papers in this volume all focus on the linguistic representation of Motion, factive or fictive. They reflect a range of advances over the Motion typology in Talmy (2000b, chapters 1–3) and Talmy (2005), or the fictive motion framework in Talmy (2000a: chapter 2). Many use data from additional dialects and languages or from experimentation and corpus research to advance the Motion typology system or the fictive motion system. And many advance our understanding of these systems from the perspectives of diachrony, acquisition, translation, or accompanying gesture.

As it stands, though, most research to date has focused on one selection from the full range of parameters at work in these systems. Thus, research on the Motion typology has mainly addressed only Manner from the full set of framing relations, and only Motion from the full set of macro-event types. And research on fictive motion has addressed mainly coextension paths out of the full set of path categories. But researchers can use their strengths in diverse languages and empirical methods to examine the remaining parameter values. The rest of this Foreword will recall the fuller systems with the aim of encouraging research to address them.

### **1. The range of relations that a co-event can bear to a Motion event**

A Motion situation consists of a Motion event per se and a co-event. The co-event can have some eight different semantic relations to the Motion event, only one of which is Manner. The items in (1) identifies and illustrates these relations for a satellite-framed language, English, where the central part of the co-event is represented in the main verb. The table's entries are sequenced so that, by stages, the co-event precedes the Motion event at the beginning and follows it at the end.

#### **(1) Relations of the co-event to the Motion event**

- a. Precursion: The co-event precedes the Motion event, but does not cause or enable its occurrence

*The glass splintered onto the carpet*

[First the window shattered, and then the shards fell onto the carpet]

- b. Enablement: The co-event directly precedes the Motion event and enables an event that causes the Motion, but does not itself cause this Motion

*Could you reach that bottle down off the shelf?*

[First you reach to the bottle to grip it, which then enables you to move it down off the shelf]

- c. Onset causation: The co-event immediately precedes and causes the Motion event.

*The napkin blew off the table from a gust of wind (nonagentive)*

[First a gust of wind blew on the napkin which, as a result, moved off the table]

*I batted the puck off across the ice (agentive)*

[First I swung the hockey stick against the puck which, as a result, moved off across the ice]

- d. Extended causation: The co-event is concurrent throughout the Motion event and maintains it

*I squeezed the toothpaste out of the tube*

[I continued pressing in on the tube for an interval of time and, as a result, the toothpaste continued coming out during that interval]

- e. Manner: The co-event is concurrent with the Motion event; it is an activity or state that the Figure of the Motion event manifests as a direct aspect of its motion or locatedness

*The ball bounced along the pavement*

[The ball moved along the pavement, bouncing up and down on it as it moved]

- f. Concomitance: The co-event is concurrent with the Motion event; it is an activity or state that the Figure of the Motion event manifests independently of its motion or locatedness

*The hawk screeched across the sky*

[The hawk flew across the sky, producing a screeching sound as it went]

- g. Concurrent result: The co-event results from (is caused by) the Motion event and occurs during some portion of it

*The rocket splashed into the water*

[The rocket moved into the water, which caused the water to splash during the latter part of the entry]

- h. Subsequence: The co-event takes place directly after the main Motion event, and is enabled by, is caused by, or is the purpose of that Motion event

*I'll look in at the stew cooking on the stove*

[First I'll go into the kitchen and, enabled by that, then look at the stew on the stove]

It would be valuable to examine other satellite-framed languages for additions or reductions in this range of relationships that a co-event can bear to a framing event. For example, German might add “reverse enablement” to the list (see Talmy 2000b: chapter 1, section 2.1.3.4). And it would certainly be interesting to know how verb-framed languages represent relationships from this range other than the well-studied Manner.

## 2. The range of forms with which a co-event can conflate

In the simplest representation of motion in a satellite-framed language like English, the co-event can be conflated directly with the deep verb MOVE that expresses basic translational motion. But this MOVE can be combined with other deep or mid-level verbs before a co-event conflates with the combination. A cumulative succession of such combinations is shown in (2).

### (2) Combinations of deep and mid-level verbs onto which the co-event can conflate

- a. To MOVE: The deep verb representing basic translational motion

*The log rolled down the slope*

[The log moved down the slope with the Manner of rolling]

- b. To AGENT to MOVE: → to A-MOVE: A mid-level verb representing agentively caused translational motion

*I rolled the log across the lawn*

[I acted on the log causing it to move across the lawn with the Manner of rolling]

- c. To A-MOVE one’s body → To GO: A mid-level verb representing self- agentive translational motion

*The girl rolled across the lawn for fun. / The girl hopped into the room*

[The girl acted internally on her own body, causing it to move across the lawn with the Manner of rolling]

- d. To INDUCE to GO: A combination of deep and mid-level verbs representing one individual successfully inducing another to execute self-agentive motion

*I prodded the cow into the pen / I smoked the bear out of its den*

I lured him out of his hiding place / I talked her down off the ledge

[I got the cow to enter the pen by (with the Cause of) prodding it]

- e. To AIM to INDUCE to GO: A combination of deep and mid-level verbs representing one individual’s attempt to induce another to execute self-agentive motion

*I beckoned him into the store / I waved her away from the burning building*

[I tried to get him to enter the store by (with the Cause of) beckoning to him; it is moot whether he entered]

Recognition of some of these distinctions does occur. Thus, many studies differentiate between the conflation patterns seen in (2a) and (2b) under the respective labels of “spontaneous motion” and “caused motion”. On the other hand, many studies treat the self-agentive motion of (2c) together with the basic translational motion of (2a), despite their semantic differences, presumably because in general both are grammatically intransitive. And studies would be welcome that examine how the conflation patterns seen in (2d) and (2e) might be expressed in other satellite-framed languages or handled by verb-framed languages.

### **3. The range of semantic components expressed in the verb**

The linguistic representation of a Motion situation can be understood as the relation of a semantic tier to a syntactic tier, involving which components of the former are expressed in which components of the latter. My work has taken two typological perspectives on such relationships. To simplify, the “framing typology” (Talmy 2000b: chapter 3) fixes on Path as a semantic component to see which syntactic constituent it is expressed in. And the “actuating typology” (Talmy 2000b: chapter 1) fixes on the main verb root as a syntactic constituent to see which semantic components it expresses. While every language may exhibit a certain variety of such cross-tier relations, each typology rests on determining the characteristic pattern for a given language—that is, the cross-tier pattern that is most colloquial in style, frequent in occurrence, and pervasive across different types of constructions.

The framing typology has attracted the most attention from other researchers. But the actuating typology reveals linguistic patterns that would also benefit from further research. The range of such patterns—pertaining to the particular semantic components that are characteristically expressed by a language’s main verb root—is therefore recalled here (see Talmy 2000b: chapter 1, section 2.4).

Crosslinguistically, in sentences expressing a Motion situation, the actuating component, namely, “fact of Motion”—represented as MOVE for motion and as BE-L for locatedness—is seemingly always expressed in the main verb root. Where languages differ typologically, then, involves what else is characteristically expressed in the main verb root. In one pattern, the verb root characteristically expresses one further major semantic component with extensive lexical differentiation. Only three semantic components can take part in this pattern. These are The Path, the co-event, or the Figure. The first two of these components have received extensive study. But the expression of the Figure in the main verb root—the characteristic pattern of Navajo, Atsugewi, and some Mayan languages—has attracted little research from a typological perspective, even though it represents a major category within the Motion paradigm.

In a related characteristic pattern, a language expresses one of the above three semantic components in the main verb root along with fact of Motion, but only with minimal lexical differentiation of that component. Thus, in sentences expressing nonagentive motion, the main verb root of Hindi apparently expresses only two deictic Path notions along with MOVE (here continuing to treat Deixis as a case of Path, despite arguments by Matsumoto et al. (this volume) to the contrary), thus yielding a recurrent appearance of come/go-type verbs. And Motion sentences in Southwest Pomo have the recurrent appearance of just three main verb

roots that, together with MOVE, express the Figure in three different degrees of numerosity, and that can be glossed respectively as ‘for one/two or three/several together to MOVE/GO’. But such characteristic patterns for representing Motion situations have again not been much examined from a typological perspective.

Main verb roots can express several further combinations of semantic components that seemingly represent only minor patterns in a language, never its characteristic pattern. In three such patterns, the main verb root, in addition to fact of Motion, expresses respectively one, two, or no further semantic components.

In the first such minor pattern, the semantic component of Ground is expressed in the main verb root along with fact of Motion. An example is seen in the English forms *emplane*, *deplane*, *embark*, *debark*, where the main verb roots *-plane* and *-bark* can be glossed as ‘to GO with respect to an airplane/a water craft’, and where the prefixes express the Path concepts of ‘entry’ and ‘exiting’.

In a second minor pattern, two semantic components are expressed in the main verb root along with fact of Motion. Thus, the English verb *box*, as in *I boxed the apples*, can be glossed as ‘to A-MOVE [the Figure] into a box’, and expresses both the Path and the Ground. Comparably, the English verb *dust*, as in *I dusted the lamp*, can be glossed as ‘to A-MOVE the dust off of [the Ground]’, and expresses both the Figure and the Path.

And in a third minor pattern, no additional semantic component is expressed by the main verb root in addition to fact of Motion. This pattern occurs in Atsugewi which—unlike its characteristic use of a verb root expressing the Figure together with fact of Motion before its Path+Ground suffixes—can also use the verb root *-i-*, glossable simply as ‘to MOVE’, before those suffixes. Again, though, little additional research has examined these three minor patterns from a typological perspective.

Finally, the range of patterns in the actuating typology within my 2000 analysis included three mixed types. First, in a split system, a language has one characteristic pattern for one type of Motion situation and other patterns for different types. Thus, Spanish exhibits a split system in that it represents location solely with its verb *estar* expressing BE-L without any further semantic component; boundary-crossing motion with Path-expressing verbs; and non-boundary-crossing motion with either Path- or Manner-expressing verbs (for the last two cases, see Aske 1989; Slobin and Hoiting 1994).

Second, in a parallel system, a language has two fully colloquial sets of main verb roots expressing different combinations of semantic components, one of which must be selected for any given sentence. Thus, modern Greek has two colloquial sets of verbs that respectively express either the Path or the co-event together with fact of Motion.

And third, in a heterogeneous system, a language might seem to randomly express, say, some Path and co-event concepts in the main verb root and others outside it. It is not clear if any language does exhibit such a system for the core Motion paradigm, but Latin seems to exhibit it for the kindred state or posture paradigm: being in, entering, or putting into a particular state.

This range of patterns in the actuating typology has received one main addition from Slobin’s (2004) notion of “equipollent framing”. The new pattern might be labeled the “indeterminate”

type, where it is not clear which syntactic constituent out of two or more candidates functions as the main verb root. In a language with this type of pattern, for example, one syntactic constituent might express the Path while another expresses the co- event, without it being clear if one of these constituents is the main verb root or some other kind of head or dominant category, while the other is a satellite or other kind of dependent or subordinate category.

An indeterminate pattern of this sort is certainly a valid possibility, and may in fact be exhibited in some languages either as a minor or characteristic pattern. But Talmy (2012) introduces a set of criteria for determining main-verb status to argue that most of the languages cited as having equipollent framing in fact do not, and that one of the contested syntactic constituents does emerge as the main verb root. Its arguments to this effect address the so-called serial verb constructions of Mandarin and Lahu, the coverb constructions of Jaminjung, and the tripartite verb stem of Atsugewi. It does not address the bipartite verb stems of Klamath (Delancey, 1989), commonly cited as exhibiting equipollence, because the data that might lead to a reanalysis could not be accessed. But Slavin (2012) firmly argues that the final component in the comparable bipartite verb stem of Oji-Cree (a dialect of Ojibwe) is the true verbal element.

While research attention has been given in fair measure to the indeterminate pattern of main-verb Motion expression (e.g. Zlatev and Yangklang 2004), and in some degree to the split pattern (e.g. Filipovic 2007), there has otherwise been little further research on the three mixed systems of split, parallel, and heterogeneous patterns.

## 4. The range of macro-event categories

The generalization over the Motion situation is the macro-event (Talmy 2000b: chapter 3). The macro-event again consists of a co-event that can bear any of a range of relations to another event. But now, this other event is not just a Motion event, but a “framing event” that can be an event in any of five different semantic domains, only one of which is Motion, as illustrated in (3). The generalization over “Path” here is the “core schema”, which also generally follows the framing typology. Thus, each type of core schema is generally expressed by the satellite in a satellite-framed language, as in the English sentences shown first in each of the five entries of (3). And it is generally expressed in the verb of verb-framed languages. These are fully exemplified in Talmy (2000b, chapter 3), but here they are simply suggested by the English formulations appearing second in each of the five entries.

### (3) Different semantic domains represented by the framing event of a macro-event

#### a. The Path in an event of Motion

*The ball rolled out (of the box)*

#### b. The aspect in an event of temporal contouring

*They talked on*

*They continued talking*

- c. The changed property in an event of state change  
*The candle flickered out*  
*The candle extinguished, flickering*
- d. The correlation in an event of action correlating (coaction)  
*She sang along (with the recording)*  
*She accompanied the recording, singing*
- e. The fulfillment or confirmation in an event of realization  
*The police hunted the fugitive down*  
*The police caught the fugitive, having hunted for him*

Beyond what was observed in my macro-event chapter, it would be valuable if future research could further investigate how typologically distinct languages represent the four types of framing event other than that of Motion. For example, some preliminary indication has already come to my attention that both Mandarin and Japanese do not represent action correlation as would be expected for their respective typological categories.

## 5. The range of multiple macro-event nesting

An additional property of macro-events is that, within a single sentence, they can exhibit multiple nesting. As illustrated in (4), an English sentence can have up to four macro-events of different types, each with its own framing event and co-event, embedded one within another.

### (4) Multiple nesting of macro-events

- a. *Could you reach me that box down off the shelf?*  
 [Could you reach toward the box, which will enable you to grip it and move it down off the shelf, which will enable you to give it to me?]
- b. *I hacked out a path through the jungle with my machete*  
 [I hacked plants down with my machete, which caused a path to come into existence (state change represented by out), which I caused to move through the jungle]
- c. *The prisoner tapped out a message along the water pipes to his confederate*  
 [The prisoner tapped on the pipes, which caused a message to come into existence (state change represented by out), which he caused to move along the pipes, which enabled him to send it to his confederate]

It would be interesting to know which combinations of nested co-events can occur in other satellite-framed languages, as well as how such nestings might be handled by verb-framed languages.

## 6. The range of fictive motion categories

Research on fictive motion has shown the same tendency to focus in on just one category—in this case, coextension paths—out of a much larger system. The great range of categories is illustrated in (5).

### (5) Categories of fictive motion

a. Emanation paths: A fictive entity emerges from a factive source object, moves in a straight path through space (and impinges on a distal factive object)

1) Orientation paths: The fictive entity is a continuous line emerging steadily from the front of the source object

a) Prospect paths: The source object has a planar front from which the fictive line emerges perpendicularly

*The cliff wall faces toward / past / away from the island*

b) Demonstrative paths: The source object is linear with a pointed front from which the fictive line emerges axially

*The arrow on the signpost points toward / past / away from the village*

2) Radiation paths: The fictive entity is an intangible line of radiation emerging continuously from an energy source

*Light shone from the sun into the cave*

3) Shadow paths: The fictive entity is a shadow that moves from a factive object straight through space onto a distal factive object

*The pole cast a shadow against the wall / The pole's shadow fell onto the wall*

4) Sensory paths: The fictive entity is a continuous sensory probe that moves from an experiencer along a straight path through space (to an experienced object)

*I looked down into the valley / past the steeple*

b. Pattern paths: A factive pattern exhibits fictive motion because components of the pattern have moved factively

*As I painted the ceiling, (a line of) paint spots slowly progressed across the floor*

c. Frame-relative motion: A first object moving factively relative to a second object is represented as fictively stationary with the second object as fictively moving

*I sat in the car and watched the scenery rush past me*

d. Advent paths: The location of a factively stationary object is represented in terms of its fictive arrival at that location

*The palm trees clustered together around the oasis*

*Termite mounds are scattered / spread / distributed all over the plain*



- e. Access paths: The location of a factively stationary object is represented in terms of a path that another entity might fictively follow to the point of encounter with the object

*The bakery is across the street from the bank*

- f. Coextension paths: The form, orientation, or location of a factively stationary extended object is represented in terms of a fictive path over the object's extent

*The fence goes from the plateau down into the valley*

Beyond the coextension paths usually looked at, the full range of fictive motion categories is extensive. It would represent a great advance if future research investigated their varied forms of realization, or their non-realization, across languages, especially if typological patterns were to become evident.

## 7. Conclusion and reflections

In sum, research on the Motion typology and fictive motion has produced great advances, but it has also tended to limit itself to just one setting of the parameters that govern those domains. It would be most welcome if future crosslinguistic research could explore the remainder in the range of parameter settings so as to advance our detailed understanding of the full system.

Iraide asked me to include a personal perspective in this Foreword. I thought I might focus on my fieldwork experience with Atsugewi, the language that played a critical role in my development of a Motion typology. Atsugewi, a Hokan language now virtually gone, was spoken in northern California by a people who migrated annually between Mt. Lassen and Burney. During a series of summers in the 1960's and 1970's I mainly worked with one of the last fully fluent native speakers, Selina LaMarr, then in her 70's and 80's. She was a remarkable person, and much of my pleasure in doing fieldwork was simply from being in her presence. She had a philosophical perspective, one that I might characterize as a fine-grained benign bemusement. It suffused her whole personhood, putting me in mind of the fine sparkling bubbles that suffuse a champagne bottle just opened. If a theoretical framework can be dedicated, I dedicate that of the Motion typology to her.

In terms of her gifts as a consultant—the reason I ultimately chose to work most with her—Mrs. LaMarr had the ability to take some whole complicated scenario that I would set up in English and find the Atsugewi sentence that would best evoke the same scenario. In this holistic match-up, she would sensitively vary each individual morpheme within the polysynthetic verb to reflect the particulars of the situation I depicted. However, in contrast with this ability with overall scenarios, she had no apparent sense of the internal morphological structure of the polysynthetic verb. And so it was that, for the first month or so of my fieldwork, I was not aware of the Cause prefix system. At best, I had started to think that there were initial verb roots with meanings like 'to do with the feet', or 'for the wind to blow'. At one point, though, the system gelled in my mind and I realized that these forms were instead causal prefixes with meanings like 'as a result of feet acting on [the Figure]', or 'as a result of the wind blowing on [the Figure]'.

Some months later, I started to work with another speaker, Hatty Christie. The first thing I asked her about her language was how to say “I pushed him away”. She answered roughly as follows: “Well, if you were doing it with your hands, you’d say *sc’wiq’wariw*. Now, if you were doing it with your shoulder, you’d say *sw’heq’wariw*. Of course, if you used your feet, you’d say *sm’aq’wariw*”. So, if I had begun my fieldwork with her, I would have had the morphological analysis of the Cause prefix system handed to me.

Thus, I found that speakers differ individually as to which aspects of language they have the greatest conscious access to. The first Atsugewi speaker I worked with had a subtle holistic sense for the entire composition, while the second speaker was spontaneously aware of word-internal morphology and would have made a good analytic linguist.

It was basically by chance that I started working on Atsugewi. I was driving along a back country road and spotted a sign on a small grocery store with a non-English name written on it. I asked inside if anyone nearby still spoke the Indian language of the area and, amazingly, was directed to Mrs. Lamarr. Before setting out to do fieldwork, I had already noticed the two-way typological difference between English and Spanish in their expression of Motion. With respect to theory, then, my chance introduction to Atsugewi turned out to be a stroke of great fortune. That language was of the rarest type that would fill out the basic three-way distinction within the actuating typology. With that foundation in place, I was able to elaborate the Motion typology, and I am of course immensely gratified by the interest this has sparked over the years and, now, in this volume.

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