

Motion-event Typology and Scene Setting in English, Japanese, and Mandarin

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Description of motion is an area of substantial crosslinguistic difference. Talmy (1991, 2000) proposed that expression of Manner of motion, i.e. the way in which a protagonist moves (e.g. *jump*, *roll*), depends on how Path of motion, i.e. the trajectory followed by the protagonist (e.g. *up*, *down*), is expressed. Satellite-framed languages, e.g. English, generally lexicalize Path of motion in adverbials, e.g. *up*, and Manner of motion in verbs, e.g. *roll*, and frequently mention both elements explicitly in speech. Verb-framed languages, such as Japanese, typically lexicalize Path in main verbs and Manner in adverbials or subordinated verbs and often omit Manner from speech. Empirical work in a range of languages has provided substantial empirical support for this analysis (e.g. Brown & Gullberg, 2008; Georgakopoulos et al., 2019; Gerwien, & Stutterheim, 2018; Hickmann et al., 2018; Li, 2015; Negueruela et al., 2004; Özçalışkan, 2015; Özçalışkan and Slobin 2003; Slobin 1996, 1997, 2004a, 2004b, 2006; Stam, 2006 inter al.). Slobin (2004b) proposed a third category, equipollently-framed languages, e.g. Mandarin, which lexicalize Manner and Path in ‘equipollent’ elements, e.g. serial verbs. However, mixed findings exist on the frequency of mention of Manner at least in Mandarin (frequent in Brown & Chen, 2013; Chui, 2009, 2011, 2012; Duncan, 2006; less frequent in Chen, 2007; Chen and Guo, 2009, 2010; Guo and Chen, 2009).

The basic typological distinction in dynamic descriptions of motion is argued to have implications for other areas of rhetorical structure, for example static “scene-setting”, i.e. description of the context in which motion takes place, which allows information about the motion to be inferred when not explicitly expressed (Slobin 1996). However, examining whether scene setting patterns in line with the typology for dynamic motion description is underexplored (see Cadierno, 2004, for Spanish versus Danish), especially in the third typological category of equipollently-framed languages. Thus, this study explores scene setting cross-linguistically across the typology: in English, Japanese, and Mandarin.

Narrative descriptions of purpose-designed animated events containing motion were elicited from native speakers of satellite-framed English (n=13), where Manner and Path are commonly expressed and consequently less scene-setting was expected, native speakers of verb-framed Japanese (n=15), where Manner in particular is less commonly expressed and consequently more scene-setting was expected, and equipotently-framed Mandarin (n=13), where findings on the frequency of Manner expression are to some extent mixed. Narratives were divided into clauses following Berman and Slobin (1994). Clauses were then identified as (1) dynamic motion, containing explicit of motion of Motion, with possible inclusion of a Figure on a Ground, or (2) static scene setting, where physical elements of the scene were described using existential or locative expressions (excluding emotion, facial expression of characters). In addition, construal

of (3) Manner and (4) Path of motion were identified. Two example narratives from English describing the same motion event follow: the first with no scene setting and the second with scene setting identified in bold, and target Manner and Path underlined.

- (1) dynamic motion: *triangle man goes down the ramp*
dynamic motion: *he's twirling*
dynamic motion: *he grabs tomato man*
dynamic motion: *and they go off to the left*
- (2) static locative/existential scene setting: ***so there's the ledge again and the slope and the low ground***
static locative/existential scene setting: ***and tomato's on the bottom***
static locative/existential scene setting: ***and the triangle man's up top***
neither dynamic nor scene setting: *still frowning*
neither dynamic nor scene setting: *tomato's still smiling*
dynamic motion: *triangle thing {does the little..} has to turn itself around multiple times*
dynamic motion: *to get down to the bottom of the hill*
dynamic motion: *and then they just kind of roll off together*

Analyses across languages revealed that speakers of all languages mentioned Path of motion to a high degree. English speakers mentioned Manner significantly more frequently and employed scene setting significantly less frequently than Mandarin speakers. Japanese speakers did not significantly differ from either English or Mandarin speakers in frequency of mention of Manner or scene setting, indicating an intermediary position.

These results support Slobin's (1996) general hypothesis that less explicit depiction of motion, specifically Manner, yields more explicit static scene setting. Results are in line with research showing Mandarin speakers' focus on location versus English speakers' focus on trajectory (Liao et al., 2020), and with the topic/comment structure in Mandarin, which "sets a spatial, temporal, or individual framework" (Chafe, 1976:50). Results relate interestingly to the status of Chinese as a paratactic, discourse oriented language, where frequent omissions include subjects but also prepositions (Yu, 1993). Results will also be discussed with respect to the differing findings regarding expression of Manner in Mandarin Chinese (Brown & Chen, 2013; Chen, 2007; Chui, 2009; Duncan, 2005, Guo & Chen, 2009), specifically with different event types.

**Reconsideration of Japanese Right Dislocation Constructions (RDCs)
in comparison with Germanic Languages**

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Comparing with Ott and De Vries' (2016) observations of Germanic Right Dislocation Constructions (RDCs), this paper reconsiders the clausal nature of Japanese counterparts with preverbal null elements by examining the identification of the null categories. Ott and Dries (2016) argue that the bi-clausal analysis of Germanic RDCs is universally correct because the constructions can be derived in a manner familiar from deletion-based accounts of sluicing and fragment answers in the bi-clausal analysis. They provide cross-linguistic parallelisms drawn from Japanese as an unrelated language. Contra Ott and de Vries' (2016) proposal, however, based on novel data with the combination of adverbial phrases and DPs postverbally from Japanese, the present paper argues for the mono-clausal analysis at least for Japanese.

Unlike Germanic languages, Japanese is a *pro*-drop and a strict head-final language. This language has also been reported to allow various categories to occur postverbally (e.g. Simon 1989). The prevailing analysis assumes the bi-clausal structure with *pro* (e.g. Kuno 1987). However, the preverbal null element in a Japanese RDC does not always seem to be *pro*. A RDC can include the combination of an adverbial and a DP on the right periphery in (1).

- (1) Context: Ken asked whether Mr. Tanaka made the box over other.
Tanaka-san-ga [e] tukurimashita-yo tegiwayoku sono hako-o.
Tanaka-Mr-Nom made-Prt efficiently the box-Acc
'Mr. Tanaka made it_i; he made the box_i efficiently.'
'Mr. Suzuki made the box efficiently.'

(1) can yield two interpretations. The first interpretation is bi-clausal, and the null object is the anaphoric use of *pro* in the first clause while the second clause is taken as afterthoughts (Kuno 1987). The other is mono-clausal, and the preverbal null element is referentially determined by the pair of the adverbial and the DP. Significantly, the null category is not *pro* for the second interpretation because the postverbal elements are taken as to be part of the single clause and yet the *pro*-form cannot include the adverbial reading besides that of DP. This challenges to the bi-clausal analysis or the uniform treatment of the construction.

Under the assumption that the verb is overtly raised to T (Hayashi & Fujii 2015, Sato & Hayashi 2018), I suggest the mono-clausal analysis with VP movement in the schematic structure (2), where VP undergoes movement while the verb is raised to T. This analysis explains the second interpretation, the reference of the null category and the correct word order of the RDC (1).

- (2) [S ... t_i Verb] [_{VP} Adv DP-Acc_i t_v]_i

To support the mono-clausal analysis, I show that Japanese shows parallelisms with Germanic languages in light of the four properties observed by Ott and De Vries (2016). Yet, I exhibit that those properties displayed by Japanese counterparts are explained by the mono-clausal analysis. The first property is concerning Condition C effects, which the Japanese RDC (3a) also shows with a DP and optionally an adverbial postverbally. I propose the schematic structure (3b).

- (3) a. *Mary-wa kare_i-ni [e] miseta, (sotto) [John_i-no tegami]-o.
Mary-Top he-Dat showed quietly John-Gen letter-Acc

'Mary showed [e]_i, John_i's letter (quietly).'

(Adapted from Abe 1999)

b. [Pronoun_i t_k Verb] [(Adv) Name_i-NP t_v]_k

(3) shows a violation of Condition C when the pronoun corefers with the name in the postverbal DP. Particularly, when the adverbial occurs postverbally, the preverbal null element should be the trace of the postverbal elements, but it cannot be the *pro*-form for the same reason as in (1).

I present three supporting arguments for the present proposal of the mono-clausal structure for some Japanese RDCs, in comparison with Ott and De Vries' (2016) observations of Germanic languages: case obligatorily matches, R-expressions, and scopes of negation.

The present paper examines Japanese RDCs in comparison with Ott and De Vries' (2016) observations of Germanic RDCs. Contra Ott and De Vries' claim of the universality of the bi-clausal analysis for RDCs, it argues for the mono-clausal analysis of some Japanese RDCs with new data from multiple constructions including adverbials postverbally although the mono-clausal analysis is not popular in the Japanese literature and cross-linguistically (but Simon 1989 for Japanese, Takano 2007 for Turkish; Manetta 2012; Simpson and Choudhury 2015 for Hindi). If this is on the right track, the postposed elements in RDCs are not always a secondary piece of information added later for conformation or clarification. Instead, they are part of a single clause while deaccented (Simon 1989).

Selected references: Ott, D. and M. d. Vries. 2016. Right-dislocation as deletion. *Natural Language & Linguistic Theory* 34(2): 639–690. Sato, Y. and Hayashi, S. 2018. String-Vacuous Head Movement in Japanese: New Evidence from Verb-Echo Answers. *Syntax* 21.1, 72-90.

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(1) Haruna-no taido-wa Mariko-no yorimo rippadatta. (Standard Japanese)
 Haruna-Gen attitude-Top Mariko-Gen than good

(2) Haruna-n taido-wa Mariko-n **to** yorimo rippayatta. (Nagasaki Japanese)
 Haruna-Gen attitude-Top Mariko-Gen one than good
 ‘lit. Haruna’s attitude was better than Mariko’s one.’ (M&T 2016)

- (6) a. $[_{DP} \text{Mariko-n } [_{D'} [_{nP} \text{NP } to_n] \text{D}]]$ (NJ) b. $[_{DP} \text{Mariko-no } [_{D'} [_{nP} \text{NP } no_n] \text{D}]]$ (SJ)

[Context: At the bookstore, Hanako is asking a clerk.] (see also Saruwatari 2016)

- (8) Hanako: Excuse me, I'm looking for Haruki Murakami's *(new one).
 (9) Hanako: Murakami Haruki-n to-ba sagashi toru to batten. (NJ)
 Murakami Haruki-Gen one-Acc look.for Prog Fin though
 'lit. I'm looking for Haruki Murakami's one.'
 (10) Hanako: Murakami Haruki-ga kaita to-ba sagashitoru to batten. (NJ)
 Murakami Haruki-Nom wrote one-Acc look.for Prog Fin though
 'lit. I'm looking for the one that Haruki Murakami wrote.'

(11) Hanako: Whose book is selling best in this shop? Clerk: Haruki Murakami's (new one).

Moreover, the pro-form *to* (or *no* in SJ) in (7) cannot refer to a person who is respected. If *to* is only a realization of the ellipsis feature, it does not have this restriction. Thus, what M&T call "the alleged pro-form *to*" must be different from the genuine pro-form.

M&T's (2016) examples like (2) are taken from dialects existing in the southeastern or some northern part of Nagasaki prefecture. In NC, the dialect spoken in the central part of the prefecture, the antecedent noun phrase and the second noun phrase carry distinct forms of the genitive marker, as shown in (12): *-no* in the former and *-n* in the latter (see Saruwatari 2016). Only when the head noun is a light noun (such as *toki*, *tokoro*, and the pro-form *to*), the genitive marker must be *-n*. Thus, when the head noun is an abstract noun (such as *taido* "attitude"), the genitive marker should be *-no*.

(12) Haruna-**no** taido-wa Mariko-**n** to yorimo rippayatta. (NC) (cf. (2))

(13) the case where *-n* is used in NC (see also Saruwatari 2016)

- | | |
|---------------------------|-----------------------------|
| a. Hanako n/*no toki (NC) | b. Hanako n/*no tokoro (NC) |
| Hanako Gen time | Hanako Gen place |
| 'Hanako's time' | 'Hanako's place' |
| c. Osaka n/*no mon (NC) | d. Kobe n/*no niki (NC) |
| Osaka Gen person | Kobe Gen around |
| 'Osakan' | 'around Kobe' |

Although *to* in (12) is not the traditional pro-form given in M&T's analysis, the *n* genitive marker must appear in NC as other light nouns. If *to* were the realization of the E(llipsis)-feature and if it instructed PF not to pronounce its complement *taido*, the genitive marker preceding *to* would be *no* in NC, and it would not need to be *n* here. Importantly, although pro-forms do not stand for abstract nouns (as stated in Okutsu 1974), they do so when used in a natural context with a comparison of two (or more) things (as Kinsui 1994). Therefore, *to* (*no*) in (1), (2), and (12) can be considered to be the traditional pro-form. Hiraiwa's (2016) analysis, in which light nouns such as *to* (*no* in SJ) occupy the *n* position, as in (6), can capture the *-n* genitive in NC, while M&T's (2016) analysis requires an additional explanation for the *-n* genitive and its connection to other light nouns.

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The Gap Use of *By* with Compound Verbs

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1. Introduction: The gap use of the English preposition *by* is employed to show the numerical gap between two values in comparative structures (Hirasawa 2013).

(1) a. He was younger **by two and a half years** ...

b. Molly has reduced her finger's fee **by ten dollars** as a favor to him. (Hirasawa 2013:96).

A variety of adjectives and verbs can co-occur with *by* in the *gap* meaning. However, the comparative structure becomes more productive as a 'construction' when three locative prefixes, *over-*, *under-*, and *out-*, are attached to verbs. This empirical corpus research demonstrates evidence for the claim (all the data shown below are collected from *NOW Corpus*).

2. The Gap Use of *By* with Compound Verbs

(2) a. Miller projected the district will **overspend by \$200,000** this year ... (US 2019)

b. ... the NHS routinely **underspent by a billion or two** every year. (GB 2019)

c. ... the New Democrats would **be outspending** the Liberals **by \$1.5 billion** ... (CA 2017)

The numbers coming after the preposition indicate *the gap* between two expenditures. Notably, in example (2), their verbal base *spend* cannot substitute any of its compound verbs (*e.g., the district will spend by \$200,000* is grammatically incorrect).

(3) a. Officials claim the average adult is **overeating by 300 calories** a day, ... (NZ 2017)

b. China has probably **under-reported** its emissions **by up to 20 percent** ... (US 2012)

c. ... the GOP also **outvoted** Democrats **by more than 120,000 votes** ... (CA 2018)

Furthermore, as found in the examples above, the verb can be either transitive or intransitive with different unit nouns following the preposition (*calorie*, *percent* and *vote*), depending on the kind of verbs used.

While *out-Vs* inevitably require the object as a competitor (Iwamiya 2020), the standardized value for comparison functions as an object of *over-Vs* and *under-Vs*. However, when the object is indefinite and readily inferable, it is implicitly hidden; therefore, the verb is used intransitively. For instance, in example (3a), the missing object of *overeat* is *food*, but not *food in particular* (Iwata 2008). Each syntactic structure can be formulated as a 'construction' as in example (4), and compound verbs that can become the input into each of the constructions are listed below.

(4) a. [NP₁ **over-V_i** NP₂ *by* Numeral P_j] ↔ [X₁ SEM_i the amount_j more than Y₂]

[NP₁ **under-V_i** NP₂ *by* Numeral P_j] ↔ [X₁ SEM_i the amount_j less than Y₂]

(Y: a standardized value represented by NP₂)

over-assess, overbid, overbook, overbuy, overclock, overcount, overcrowd, overdraw, overestimate, overfeed, overfill, overfulfil, overfund, overload, over-occupy, overpopulate, overprice, over-report, over-represent, oversell, overshoot, overstaff, overstate, overstress, overstretch, oversupply, overtax, overvalue, overwork/ underachieve, underbid, undercount, underestimate, underfund, underperform, underprice, under-report, undersell, undershoot, understate, undervalue

- b. [NP₁ **over-V_i** by Numeral P_j] ↔ [X₁ SEM_i the amount_j more than Y]
 [NP₁ **under-V_i** by Numeral P_i] ↔ [X₁ SEM_i the amount_j less than Y]
 (Y: a conventionally-conceived norm)
*overeat, overpay, overperform, overproduce, overspend, oversleep, overstay/
 underpay, underspend*
- c. [NP₁ **out-V_i** NP₂ by Numeral P_j] ↔ [X₁ exceeds Y₂ by the amount_j in SEM_i -ing]
 (Y: a competitor who/which can V)
*outbid, outdrive, outgross, outgrow, outlast, outlive, outpace, outperform, outrun,
 outsell, outscore, outsell, outshoot, outspend, outstay, out-survive, outvote*

Various compound verbs can occur with the gap use of *by*, though their verbal bases cannot (only *grow*, the verbal base of *outgrow*, can be used intransitively with *by* to show a growth rate like *the sales grew by 10 %*). Typically, the verbs used with *by* indicate *a rise* or *a fall* in number. Thus, it is understandable that verbs representing *money transfer* (*buy, pay, spend, etc.*) and those implying *the time passage* (*last, sleep, survive, etc.*) can be the input for the comparative structure.

However, the intriguing point here is that activity verbs unrelated to *money* or *time relations* (*book, build, eat, report, run, etc.*) can also be an input into the constructions as seen in examples below, which makes them potentially a very productive process to express the gap in comparative structures.

- (5) a. The University of Kentucky **has overbooked** its dorms **by hundreds of students**...
 (US 2019)

- b. ...we are still relying on a 35-year old to run our midfield is a problem, especially against opponents who can **outrun** you **by 12km**. (GB 2017)

The reason why these compound verbs in (5) can be used in comparative structures is that the affixation of *over-*, *under-*, and *out-*, can give some subjective standard or norm such as *the number of students that the dorm can accommodate* and *the distance that you can run in a given time span* to each sentence to express the difference in number.

Presumably, there can be far more verbs that can be the input, but whether the compound verb is accepted to show a numerical difference ultimately depends on how frequently it is used (Taylor 2012), as seen from the fact that *under-Vs* are much less productive than *over-Vs*. The forms and meanings in the three comparative structures above are unpredictable, and therefore should be regarded as constructions.

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