

**A fine-grained analysis of manner salience:
Experimental evidence from Japanese and English***

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Abstract

This chapter delves into the typological discussion of “manner salience” (Slobin 2004, 2006) by means of a fine-grained examination of different kinds of manner expressions. Our two speech elicitation experiments revealed that English speakers are clearly more manner salient than Japanese in the use of the “default” general manner expression (i.e. *walk*) in describing human walking motion. On the other hand, Japanese speakers use mimetic adverbs which significantly contribute to the expressive power of manner expressions, especially in describing the sounds that moving entities make. These results indicate that manner salience is a complex phenomenon that involves multiple parameters in the form and meaning of manner expressions, rather than a mere epiphenomenon of the typology of path coding positions.

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1. Introduction

Speakers of some languages mention manner of motion (e.g. running, crawling, skipping) more frequently than speakers of other languages. In this chapter, we discuss this typological issue—called “manner salience” (Slobin 2004, 2006)—on the basis of two speech elicitation experiments with Japanese and English speakers. By manner salience we mean the degree to which speakers of a language pay attention to the manner component of motion events, typically assessed by the frequency of manner expressions (Slobin 2004, 2006). According to Slobin, the typology of manner salience depends on the lexical, syntactic, and even rhetorical profiles of each language. This chapter discusses two such determinants: the typology of motion event descriptions in terms of path coding positions (Talmy 1991, 2000; Slobin 1996, 2000; Matsumoto 2003, 2018) and the nature of manner expressions. As for the second determinant, we pay special attention to the different types of manner expressions, based not just on general/specific contrasts but also finer-grained distinctions involving defaultness and expressiveness. Expressiveness is an important formal property that is particularly characteristic of mimetic (or ideophonic) lexemes, including those describing sounds, which abound in Japanese as well as in some other languages (Akita 2017; Wienold 1995; Voeltz and Kilian-Hatz 2001; Tsujimura and Deguchi 2007; Toratani 2012). The discussion is based on experimental data, examining more diverse motion events than have been examined so far, including sound-emitting motion.

The organization of this chapter is as follows. Section 2 presents basic concepts of manner and manner salience and introduces the types of manner expressions used in this chapter, focusing on different parameters in such expressions. In Section 3, a “frog story” experiment is reported for Japanese, and the results are compared with previously available English data. This examination of manner salience in a familiar experimental setting reveals differences between the two languages when their overall results are compared, as well as a large degree of variation in the use of manner expressions for different scenes within each language. In Section 4, we report our thorough reanalysis of the results of a speech elicitation experiment using audio-video clips (Akita et al. 2010) from the perspective of the present chapter. We show that the overall use of manner expressions is not much different between English and Japanese, but scene-based analyses reveal important differences, with English speakers more frequently using the default manner expression *walk* in describing walking events, and Japanese speakers more frequently utilizing mimetic adverbials of high expressive power in describing the sound-emitting motion of inanimate objects. In Section 5, we argue that the typology of path coding positions does not fully account for the manner salience of individual languages. Section 6 provides a conclusion.

2. The typology of manner expressions

2.1. Manner

The term “manner” has been used somewhat broadly in the literature on manner salience. Typically manner of motion refers to the limb motion of a moving person, but often verbs like *rattle* are also treated as manner verbs

(e.g. Ohara 2002; Slobin 2004). This situation calls for the clarification of the term in this chapter.

The term manner in this chapter subsumes what Talmy (2000) calls “Manner” and “Concurrent Result”. Both Manner and Concurrent Result are relations that the Co-event has to the Motion event, defined as follows.

In the Manner relation, [...] the Co-event co-occurs with the Motion event and is conceptualized as an additional activity that the Figure of the Motion event exhibits—an activity that directly pertains to the Motion event but that is distinct from it. In this conceptualization, the Co-event can “pertain” to the Motion event in several ways, such as by interacting with it, affecting it, or being able to manifest itself only in the course of it. (Talmy 2000: 45)

In the relation of Concurrent Result, the Co-event results from—that is, is caused by—the main Motion event, and would not otherwise occur. It takes place concurrently with, or during some portion of, the Motion event. (Talmy 2000: 46–47)

Note that in both Manner and Concurrent Result, the Co-event has nonaccidental cooccurrence with the Motion event. This similarity motivates our treatment of both as manner in this chapter. Talmy illustrates both relation types with V + Path PP/AP expressions in English: *spin past the lamp*, *curl up into its sheath*, etc. (Manner); *slammed shut*, *splashed into the water*, etc. (Concurrent Result). This syntactic parallelism also underlies the broad definition of manner we adopt in this chapter.

It should be noted that we do not include Concomitance, another subevent relation Talmy proposes, in our manner category. In the Concomitance relation, “the Co-event co-occurs with the main Motion event and is an activity that the Figure of the Motion event additionally exhibits” and “this activity does not in itself pertain to the concurrent Motion” (Talmy 2000: 46). For example, a woman wearing a green dress is only concomitant

to her motion event to a party and does not pertain to it. Interestingly enough, in English, Concomitance may be incompatible with the V + Path PP construction. In (1), the emission of a whistling sound is closely related to the train’s movement but not to Shelly’s, and this semantic difference leads to different acceptability (see also Levin et al. 1997; Goldberg and Jackendoff 2004: 540; Iwata 2006; Tamura 2006). (Talmy (2000: 46) gives a sentence like (1a) as acceptable.)¹

- (1) a. *Shelly whistled down the street. (Concomitance)
 b. The train whistled into the station. (Manner)

(Levin 1993: 236)

2.2. *Manner salience*

The idea of manner salience appeared as part of Slobin’s (1996, 1997, 2000, 2004) thinking-for-speaking hypothesis that has its basis in the “framing typology” of motion event descriptions (Talmy’s 1991, 2000), which recognized two types of languages. So-called verb-framed languages (Talmy 2000), or head path-coding languages in our terms (Matsumoto 2016) typically encode path in the clause head position (i.e. the main verb or the head of a main verb complex) and need additional, often optional elements (e.g. adverbs, participial verbs) to express manner, as illustrated in (2a).² Examples of this type are Basque, Japanese, Korean, and Romance

¹ We do not include in our manner category Cause or Means of Causation, such as throwing in (i).

(i) *Susan threw a ball to us.*

We do examine, however, Manner in Caused-motion sentences, such as rolling in (ii), which is the Manner of the ball’s motion caused by the subject’s action.

(ii) *We rolled the ball down the hill.*

² Our terms, “head path coding” and “head-external path coding”, avoid the

and Semitic languages. Satellite-framed languages, or head-external path-coding languages in our terms, on the other hand, typically encode path in adpositions, particles, verbal affixes, and other elements external to the head, leaving the main verb slot open to encoding manner among other things, as illustrated in (2b). Finno-Ugric, Germanic, and Slavic languages are of this type.

- (2) a. *Inu ga inugoya ni (hasit-te) hait-ta.* (Japanese)
dog NOM doghouse GOAL run-CONJ enter-PST
'The dog entered the doghouse (running).'
- b. *The dog **ran** into the doghouse.*

According to Slobin (1996) and Talmy (2000), expressing path outside the main verb means that manner is in the main verb position, and since the main verb is syntactically obligatory, manner has to be mentioned. This is how the framing type of a language is argued to contribute to the frequency of manner expressions, although the expression of path in head-external positions does not in fact guarantee the use of manner verbs as the main verb, as pointed out by Berthele (2013) and discussed later. Slobin claims that such a difference in path coding position has led to rhetorical differences in which speakers of satellite-framed or head-external path-coding languages habitually pay attention to manners and describe them.

terminological issues of Talmy's typology, as discussed in Matsumoto (2003). There are some additional differences between Talmy's typology and ours: Talmy's typology concerns cases where Manner (and other Co-events) are integrated with Path into a clause. Our terms are not meant to be restricted to such cases, and are applicable to sentences without Manner specifications (e.g. *Bill came into the building*).

Slobin (2004, 2006) modified his view slightly in light of his three-way (rather than binary) classification of languages, which recognizes another type, equipollently-framed languages, in which path and manner are expressed in forms of the same status (e.g. verbs in a serial verb construction). Recognizing that Thai and Chinese, which he categorizes as equipollently-framed, are rich in manner expressions, he states that languages of low manner salience express manner in a subordinate position with respect to path (i.e. either path is in the main verb and manner is in a subordinate to it, or path and manner are expressed in forms of equal status). (We discuss this view later in Section 5.)

Other factors may also contribute to manner salience. It has been argued that a language may have a mixed system for expressing path with multiple constructions available to indicate manner, and so a simple identification of a language in terms of path coding position may not be a good indicator of manner salience. Koga (2017) argues that one factor in high manner salience is the presence of a syntactic/morphological slot that is exclusively used for manner. Another factor that may contribute to manner salience is the lexical inventory of conventional manner expressions and means to create nonconventional manner expressions (Slobin 2004, 2006). Mimetics, more generally called ideophones, are among such lexical resources. They are defined as “marked words that depict sensory imagery” (Dingemanse 2011: 25), including but not limited to onomatopoeia (i.e. sound imitatives). Their morphological and phonological representations iconically reflect the sensory experience they depict, as illustrated by the English partially reduplicated nasal-ending mimetic *dingdong* for a repetitive reverberating sound. Matsumoto (2003: 408–413) notes the abundance of mimetic manner adverbials in some languages and, furthermore, its incomplete correlation with the typology of path coding positions (cf. Wienold 1995). Some head path-coding languages, such as Basque (Ibarretxe-Antuñano 2006, 2009a), Japanese (Hamano 1998;

Toratani 2012), and Korean (Sohn 1994), are rich in mimetic manner adverbials, but other languages of the same type, such as Spanish and Hebrew, are not. We may therefore expect some head path-coding languages to be more manner salient than other languages of the same type, or even than some head-external path-coding languages.

Relevant cases have been reported for Japanese. Ohara (2002) and Sugiyama (2005) observe that novels translated into Japanese preserve much of the manner-of-motion information in the English originals by means of mimetics. This is illustrated in (3), in which the auditory manner information expressed by *rattle* in the English original of *The Adventures of Sherlock Holmes* (Doyle 1892) is successfully preserved by the mimetic *gotogoto* ‘rattling’ in addition to the manner verb *hasiri* ‘run’ in the Japanese translation.

- (3) a. *We rattled through...gas-lit streets...* (English original)
 b. *Gasutoo ni teras-are-ta yoru no gairo o, ...*
 gas.light by light-PASS-PST night GEN street ACC
basya wa gotogoto to hasiri-tuzuke...
 carriage TOP MIM QUOT run-continue
 ‘[Our] carriage continued to *run rattlingly* through gas-lit night streets, and...’

(Japanese translation; adapted from Ohara 2002: 135–136)

As in this example, Japanese mimetics used in motion descriptions are mostly adverbial (Kita 1997; Hamano 1998). They are typically identifiable by their morphological shape, notably reduplication, as is true for mimetics in many other languages (Hinton et al. 1994; Ibarretxe-Antuñano 2006). Adverbial mimetics are often followed by the quotative marker *to* (or *te*), as in (3b), but it is optional for certain morphological types of mimetics.

Since both Ohara and Sugiyama limit themselves to a few dozens of sentences, the discussion will benefit from a more extensive quantification of manner salience, including one based on speech data with many mimetic instances. The present study presents relevant experimental data primarily in Japanese and English, shedding light on a more elaborated analysis of manner salience.

2.3. *Types of manner expressions*

A fine-grained classification of manner expressions is needed for an elaborate examination of manner salience. There are three important contrasts in manner expressions that may be relevant to their token frequency and syntactic realizations: general vs. specific; default vs. nondefault; and conventional vs. expressive.

First, manner expressions differ in specificity. As Slobin (1997, 2000) assumes for verb lexicons, some manner expressions, such as *walk*, *run*, *jump*, and *swim*, are general and basic, whereas others, such as *hop*, *jog*, *stride*, and *ramble*, are specific (see also Snell-Hornby 1983; Boas 2008; Malt et al. 2014; Slobin et al. 2014). Specific manner expressions can be defined as expressions that give further manner specification to other, general manner expressions. For example, English has an extensive set of specific manner verbs. The specificity of these verbs can be confirmed by expressions like *Jogging is a kind of running* and *Striding is a kind of walking*. Crucially, this type of relation cannot be found for verbs like *walk* and *run*, which are general manner verbs and do not have superordinate manner verbs; no manner-of-motion verb can be found for the slot in *Walking is a kind of _____ing*. Similarly, adverbs can also be classified in terms of the general/specific distinction. While *quickly* is general, *briskly* is specific. This distinction roughly corresponds to Slobin's (2000) "Tier 1" and "Tier 2" manners, and Slobin et al.'s (2014) "basic" and "expressive"

manners. The distinction is largely a matter of categorization, rather than one that is based on the use of expressions.

Languages appear to differ considerably in the lexicalization of specific manners. The size of a manner verb lexicon varies according to the language, and this has been discussed with respect to the typology of path coding positions (Slobin 1997, 2004; Verkerk 2013). In this regard, English abounds in monomorphemic specific manner verbs (Snell-Hornby 1983; Levin 1993), whereas Japanese does not (see Wienold 1995; Matsumoto 1997). Specific manner expressions in Japanese include (i) (a limited number of) verbs (e.g. *kake* ‘run briskly, dash’), (ii) verbal nouns forming a complex verb with the light verb *su* (e.g. *sukippu-su* (skip-do) ‘skip’, *kappo-su* (striding-do) ‘stride’), and (iii) mimetic adverbials (e.g. *tobotobo (to)* (MIM QUOT) ‘ploddingly’, *pyonpyon (to)* (MIM QUOT) ‘hoppingly’) (for related discussions, see Schaefer 2001; Toratani 2012: 117–118; see also Cardini 2008; Slobin et al. 2014).

The second and third distinctions are based on the functional properties of manner expressions. The second one concerns defaultness. Predictable manners may be left unmentioned even if the language has expressions for them. Oh (2003: 19) finds that speakers of Korean often ignore an inconspicuous manner of human locomotion (i.e. walking), but English speakers rarely do. Walking is a typical, “default” manner of motion in many cases of human motion and is, therefore, predictable and omissible (see also Morita this volume for a related discussion in French). A related remark can be found in Talmy (2000: 65), who cites Emai as a language in which, among different types of manners, only walking cannot be expressed in the main verb. These reports suggest that verbs for default manner, notably verbs meaning ‘walk’, are used differently. Note that ‘walk’ verbs may not be different from ‘run’ verbs in terms of their categorical status of being superordinate to more specific manner verbs (Malt et al. 2014), but they are different in terms of their pragmatic properties (i.e.

frequency, usualness, predictability). It may be the case that certain other manner verbs expressing a typical and predictable manner of types of moving entities other than human beings (e.g. flying for birds and planes, swimming for fish) may also be regarded as default, at least in relevant contexts.

The third distinction is based on expressiveness (Akita 2017; Dingemanse and Akita 2017). Expressiveness in this chapter refers to the features of expressions, especially certain mimetics, that are not morphophonologically conventional and are used to convey semantically emphatic effects of increased vividness (thus, it is crucially different from the way this term is used in Slobin et al. (2014)). Typical expressive features include vowel lengthening, extra repetition, and special intonation or phonation (Zwicky and Pullum 1987; Nuckolls 1996; Kita 1997). For example, *dɔ́bɔ́rɔ́wɔ́wɔ́* is an expressive use of the mimetic *dɔ́bɔ́rɔ́* ‘soft’ in Siwu (Niger-Congo) (Dingemanse 2011: 144, 146), which involves vowel lengthening and prominent intonation. Here we call such specific manner expressions “expressive” specific expressions, in contrast to “conventional” specific expressions. English and Japanese examples of expressive specific expressions include (*go*) *swoooosh* and *basyaaaaan* ‘splaaaash’ (*swoosh* and *basyan* are treated as conventional specific expressions).

Recent crosslinguistic studies report a correlation between the prosodic and morphological expressiveness of mimetics and their grammatical realization (Dingemanse 2011, 2017; Dingemanse and Akita 2017). Mimetics with expressive features are most common in holophrastic and adverbial constructions, which have peripheral status in sentence structure. Expressiveness tends to diminish in predicative uses of mimetics. For example, Japanese mimetics that are incorporated into verbs (e.g. *burabura-su* (MIM-do) ‘stroll’) are much less likely than their non-incorporated counterparts (e.g. *burabura to aruk* (MIM QUOT walk) ‘walk strolling’) to have expressive features such as lengthening and

repetition (e.g. *?buurabura-buurabura-su* vs. *buurabura-buurabura to aruk*) (Akita 2017; for a detailed description of expressive features of Japanese mimetics, see Dingemanse and Akita 2017). A similar contrast is reported for English onomatopoeic expressions, which tend to be more expressive when they appear in a quotative *go*-construction (e.g. *went swoooosh*) than when realized as verbs (e.g. *?swooooshed*) (Akita 2017). These findings allow us to expect that Japanese mimetics, which are typically adverbs, are more likely than English verbal onomatopoeia to be used expressively, contributing to the manner salience of motion descriptions.

Figure 1 shows how the three parameters in manner expressions are related. It would be safe to say that default manner expressions are a subpart of general manner expressions, which are contrasted with specific manner expressions. The conventional vs. expressive distinction holds at a different level, but most expressive expressions are specific: although both general and specific manner expressions may in principle be uttered with different degrees of expressiveness, examples of the former appear to be rare.

		Conventional	Expressive
General	Default	<i>walk</i>	
	Nondefault	<i>run</i>	
Specific		<i>swagger</i>	<i>go swoooosh</i>

Figure 1. Types of manner expressions

These different types of manner expressions convey different *quality* of manner information. Those languages in which specific manner expressions are preferred, especially expressive ones, may be said to be qualitatively manner salient.

Manner expressions can also be categorized in terms of the ontological nature of the manner involved. Typical manner expressions code motion of limbs, which drives the body of a moving person forward (e.g. *walk*, *run*);

other manner expressions often reflect inner psychological states of the moving person (e.g. *swagger*, *strut*). Manner expressions for inanimate moving objects may code the dynamics of the moving object in motion (e.g. *bounce*, *roll*). Other manner expressions as defined in Section 2.1 code the sounds with which a moving object moves (e.g. *rattle*, *plop*). Such different kinds of manner may be expressed differently according to the language. Japanese has a rich lexicon of sound mimetics (Kakehi et al. 1996), which are used for the sounds that different objects make. It would be interesting to see how such a lexical inventory of manner adverbs relates to the way manner expressions are used.

We assume that path and manner are not exclusive to each other in the lexicon, and that some path verbs encode manner as well (Beaver and Koontz-Garboden 2017). For example, the English verb *climb* typically refers to upward motion in a clambering manner (Fillmore 1975; Jackendoff 1985), and in this sense it codes manner as well as path. (The Japanese *nobor* ‘go up’ lacks such a clambering manner component; it can be used for the upward motion of a person, the sun, smoke, etc.)³ We treat the path verb *fall* as additionally coding cause, not manner, since it can be used for a variety of falling manners (e.g. balls, leaves, snowflakes), but which are all manifestations of the major cause of gravity (cf. Blomberg 2014).

The present study demonstrates that manner salience is not a unitary concept and different languages exhibit manner salience in different types of manner expressions. Specifically, we provide quantitative support for the high manner salience of English as measured by token frequencies of manner expressions, the default one (i.e. *walk*) in particular. However, focusing on a different parameter, expressiveness, leads to a somewhat

³ The verb *nobor* is used for an upward motion that appears to take place due to the force or tendency internal to the moving entity, and it cannot be used for an upward motion that is externally caused (e.g. a ball hit high up in baseball).

different conclusion. We show this in the next two sections by examining the results of two different speech elicitation experiments done in English and Japanese.

3. Experiment 1: Frog stories

In Experiment 1, we examined Japanese narrative data to compare them with English data. The picture book *Frog, Where Are You?* (Mayer 1969) used by Slobin (1996, 2000) was also used to elicit motion descriptions from Japanese speakers. The purpose of the experiment was to see how frequently manner expressions occur in Japanese, in an experimental format already familiar to researchers of the typology of motion event descriptions (e.g. Slobin 1996, 2000, 2006; Özçaliskan and Slobin 2000; Ibarretxe-Antuñano 2009b). 23 Japanese frog stories were compared with Slobin's 12 English frog stories available in Marchman and Renner (2010), which were reanalyzed using our own terms.

3.1. Method

23 native speakers of Japanese (10 men and 13 women; ages: 21–30, $M = 23.79$; from west or central Japan) were asked to read the picture book silently and then tell the story while looking at the book again. This picture book contains a set of pictures without any words that form the story of a boy and a dog searching for a frog. It contains 29 events that can be potentially described in terms of motion, such as a frog stepping out of a jar, an owl popping out of a tree, and a deer running to a cliff with a boy on its

head.⁴ It is up to the speakers which events to include in their versions of the frog story, or whether to describe them in terms of motion and describe its manner. We expected these motion events to allow us to compare the frequency of different types of manner expressions in the two languages.

3.2. Results

Figure 2 shows what percentages of the 29 events that were potentially describable in terms of motion were in fact described explicitly in terms of motion (rather than going unmentioned) by the narrators. English narrators described more of the 29 events in terms of motion than Japanese speakers did ($p < .001$ by Fisher's exact test). The average number of motion descriptions in English was 14.6 per narrator, as opposed to 11.9 in Japanese.

⁴ These events are as follows: frog steps out of jar, frog goes out window, boy and dog go searching room, boy goes to window, dog goes to ledge, dog falls out of window with jar, boy goes out window, boy and dog go out into forest, gopher comes out of hole, dog jumps at beehive, bees come out/fly about, beehive falls, boy climbs a tree, owl comes out of tree, boy falls from tree, dog runs away from bees/is chased by bees, boy runs away from owl/is chased by owl, dog comes back to boy, boy and dog go further into forest, boy climbs rock, deer appears from behind rock, deer runs with boy on its head, dog runs with deer, deer throws boy off, boy (as well as dog) falls into pond, boy and dog come out of pond, boy creeps over log, frogs come out, boy returns with frog. This list includes events that are not depicted but that can be assumed to have happened in the transitions between scenes.

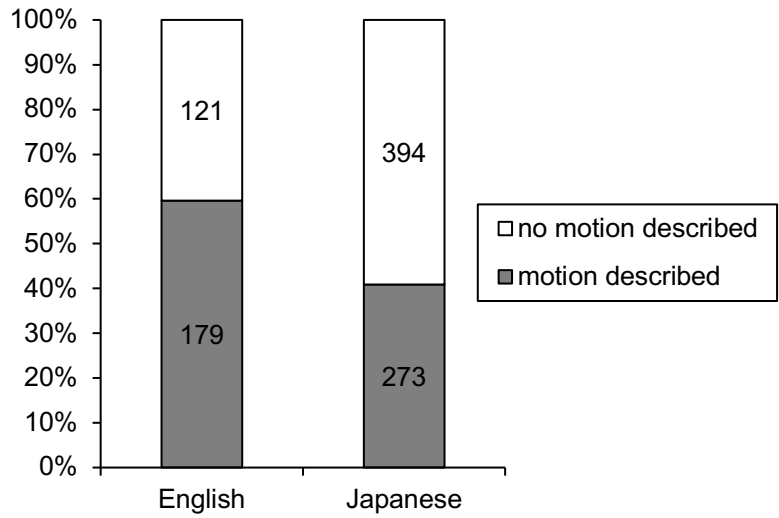


Figure 2. Motion descriptions in frog stories in English and Japanese

Figure 3 shows what percentages of the motion-based descriptions that were found in the narrations contain at least one manner expression. It reveals that English speakers used manner expressions relatively more often in motion-based descriptions than Japanese speakers ($p < .001$ by Fisher's exact test).

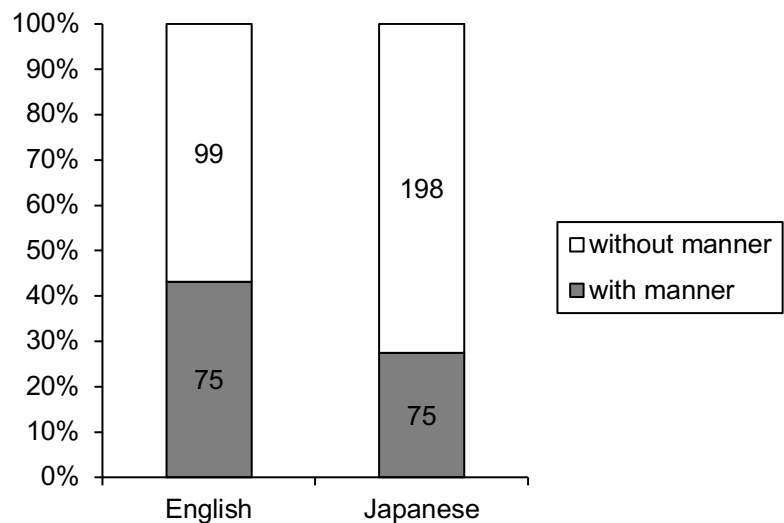


Figure 3. Descriptions of manner in motion event descriptions in frog stories

The overall frequency of manner expressions is given in Figure 4. It shows the average number of manner expressions per narrator in English and Japanese frog stories, with manner expressions divided into: (i) default general, (ii) nondefault general, (iii) conventional specific, and (iv) expressive specific.

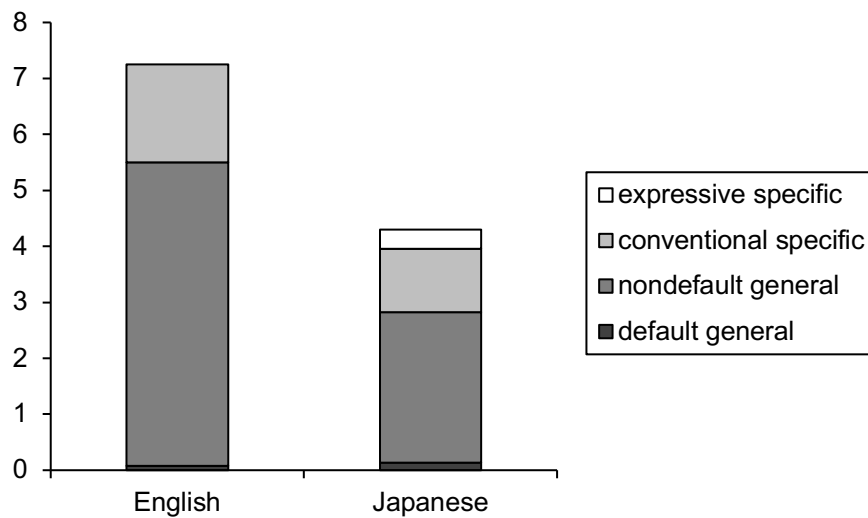


Figure 4. Average number of manner expressions per narrator in frog stories

English frog stories were found to be richer in manner expressions than Japanese frog stories in terms of their overall frequency ($t(33) = 2.25$, $p < .05$, by heteroscedastic t -test).⁵ English frog stories were also found to be richer than Japanese frog stories in the frequency of nondefault general manner expressions (homoscedastic t -test: $t(33) = 3.05$, $p < .01$), but the

⁵ There was an outlier among the numbers of manner expressions produced by 23 Japanese narrators, with one speaker producing more than 5 times as many manner expressions as the average ($\tau = 4.11$). When the data from this narrator is excluded, the average number of manner expressions in Japanese is down to 3.36, significantly lower than that in English ($t(32) = 4.55$, $p < .001$ by homoscedastic t -test).

frequency of specific manner expressions showed no significant difference between the two languages (homoscedastic *t*-test: $t(33) = 0.34, p = .73$ (*n.s.*)). Default general manner expressions were very rare in both languages: only a few instances of default manner expressions ('walk') were found (J: 3 tokens; E: 1 token). Expressive expressions were found only in Japanese frog stories, and the difference was statistically significant (heteroscedastic *t*-test: $t(33) = 2.42, p < .05$).

There were 7 references to the sounds related to the motions in Japanese, which account for 7.1% of the manner expressions obtained, while there were 2 instances in English, accounting for 2.2% of the manner expressions. These sound descriptions involved mimetics like 'splash' and 'splat'.

Examples of manner expressions are given in (4) and (5). Both the Japanese and English sentences in (4) contain a general manner verb meaning 'run' that describes the manner of the deer's motion.

(4) a. Japanese:

Otokonoko to inu wa sonomama
 boy and dog TOP as.they.were
hasiri-tuzuke-ru sika kara huri-otos-are-te...
 run-continue-NPST deer from swing-make.fall-PASS-CONJ

'The boy and the dog were swung down by the deer that continued to
run ...'

b. English:

the deer runs away with the little boy on him (20h_10b059,
 emphasis added)

In (5), the splashing sound of the two characters is expressed by different syntactic means in the two languages: a mimetic adverbial modifying a path verb in Japanese and a main verb in English. One may argue that mimetics

in Japanese compensate for its small repertoire of specific manner verbs, as pointed out by Ohara (2002) and Sugiyama (2005).

(5) a. Japanese:

Syoonen to inu wa issyoni mizutamari ni
 boy and dog TOP together puddle GOAL
dobon to oti-te iki-mas-u.
 MIM QUOT fall-CONJ go-POL-NPST

‘The boy and the dog are falling together into the puddle *with a plop.*’

b. English:

[*the boy*] *splats* in the water with the dog right on top of him

(20j_12-065)

All Japanese and English manner expressions in our data are listed in (6) and (7), respectively. The numbers in parentheses represent the token frequencies of the expressions.

(6) Japanese:

a. Verbs:

i. Default general (1 type, 3 tokens):

aruk ‘walk’ (3)

ii. Nondefault general (5 types, 60 tokens):

ow ‘chase’ (28), *hasir* ‘run’ (19), *tob* ‘fly’ (8), *haw* ‘crawl’ (3),
suber ‘slide’ (2)

iii. Conventional specific (3 types, 9 tokens):

yozi(-nobor) (twist(-climb)) ‘climb up’ (6), *kake* ‘run briskly’ (2),
samayow ‘wander’ (1)

b. Adverbials or holophrastic mimetics:

i. Conventional specific (10 types, 16 tokens):

non-mimetic: *issyookenmei* ‘diligently’ (2), *awatete* ‘hurriedly’ (1),
ikioi-yoku ‘vigorously’ (1)

mimetic: *kossori (to)* ‘stealthily’ (4), *sot (to)* ‘gently’ (3), *yukkuri (to)* ‘slowly’ (1), *botoQ* ‘plop (of solid)’ (1), *mosomoso (to)* ‘creeping’ (1), *dondon* ‘steadily’ (1), *dobon* ‘plop’ (1)

ii. Expressive specific (8 types, 8 tokens):

mimetic: *doboon* ‘plop (of liquid)’ (1), *botyaan* ‘plop (of liquid)’ (1), *dosaan* ‘thud’ (1), *gasyaan* ‘crash’ (1), *kasyaan* ‘clatter’ (1), *pasyaan* ‘splash’ (1), *soroori soroori* ‘gingerly’ (1), *dondon-dondon* ‘steadily and steadily’ (1)

(7) English:

a. Verbs:

i. Default general (1 type, 1 token):

walk (1)

ii. Nondefault general (6 types, 65 tokens):

run (24), *climb* (17), *chase* (15), *crawl* (4), *jump* (3), *fly* (2)

iii. Conventional specific (13 types, 20 tokens):

pop (4), *hop* (3), *sneak* (2), *tumble* (2), *creep* (1), *flap* (1), *limp* (1), *plummet* (1), *splat* (1), *step* (1), *swarm* (1), *tiptoe* (1), *wander* (1)

b. Holophrastic:

i. Conventional specific (1 type, 1 token):

splash (1)

The data show an impressive difference in the syntactic categories of specific manner expressions. All of the general manner expressions in Japanese and English are verbs. On the other hand, only 9 out of 33 specific manner expressions in Japanese are verbs, the rest being adverbials (20 mimetics and 4 non-mimetic), while 19 out of 20 are verbs in English.

In English, 91.9% (86 instances) of the manner verbs were used in the main verb (i.e. head) position. In Japanese, 63.5% (47 instances) of the manner verbs were used in the main verb position, the rest (36.5%, 27 instances) occurred in a position modifying the main verb (e.g. the first verb

of a compound verb, or the *-te* verb modifying the main verb). The modifier option was not utilized to a full degree: Japanese frog story data have 227 path verbs and deictic verbs used in the main verb position (within all 271 instances of the motion descriptions), in all of which a manner verb could have been used as a modifier.

One characteristic of Japanese frog stories was the use of expressive expressions. As shown in (6bii), 8 of the Japanese mimetics have expressive morphological/prosodic features, such as vowel lengthening (*aa*, *oo*, etc.), partly to achieve higher iconicity. This is illustrated by the sentences in (8).

- (8) a. ***Gasyaan***. *Zimen no ue ni bin-goto*
MIM ground GEN top DAT jar-with
oti-te-simat-ta-no-des-u. (vowel lengthening)
fall-CONJ-end.up-PST-NML-POL-NPST
‘*Craash*. [The dog] ended up falling on the ground with a jar on.’
- b. ***Soroori soroori***, *kaeru-san ga nige-te*
MIM frog-Mr. NOM escape-CONJ
iki-mas-u. (vowel lengthening, stem repetition)
go-POL-NPST
‘*Gingerly, gingerly*, Mr. Frog escapes and goes away.’

In (8a) the mimetic *gasyaan* has a lengthened vowel unlike the conventional *gasyan*, as is also true of *soroori* in (8b), unlike the conventional *sorori*. All of these appear in positions separated from the main clause. Crucially, these features were totally absent in English, according to the transcription provided in Marchman and Renner (2010). This is as predicted by the correlation between the expressiveness and grammatical realization of mimetics (Section 2.3). It is not totally clear, however, whether the transcription of data in English frog stories was done carefully enough to indicate the presence of expressive features such as vowel lengthening.

A scene-by-scene analysis points to variations among the motion descriptions of different scenes. Figure 5 shows the results from ten major motion events that were described by more than half of the narrators in terms of motion in both languages: (1) Frog steps out of jar, (2) Dog falls out of window onto ground, (3) Boy and dog go out to forest, (4) Owl comes out of tree, (5) Dog runs away from bees (is chased by bees), (6) Boy runs away from owl (is chased by owl), (7) Boy climbs a rock, (8) Deer runs with boy on its head, (9) Boy and dog fall into pond, and (10) Boy returns. The figure shows the percentages of responses with manner within motion-based descriptions of those events.⁶

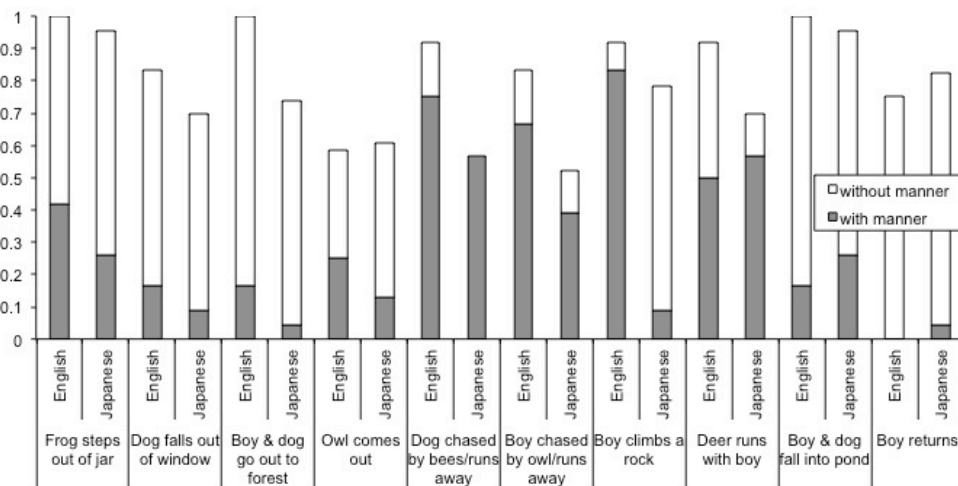


Figure 5. Manner specification in the motion descriptions of ten events in frog stories

The results show interesting differences in the use of manner expressions among scenes. Some motion events elicited more manner

⁶ We understand that this is how data were analyzed in Slobin (2006). Our count of manner expressions in the owl scene, however, is different from what is reported in Slobin (2006), probably because of one more count of manner expressions in our analysis.

expressions in their motion-based descriptions than others. Running/chasing events tended to elicit manner specification in both languages very often (events 5, 6, 8). The events that did not elicit manner expressions include falling events (2, 9), in which the use of manner expressions is not frequent even in English; in many cases, the descriptions have path verbs as the main verb (e.g. *fall*, *otir* ‘fall’). Other scenes that did not elicit manner are those motion events in which manner is not explicitly depicted in the pictures of the book. This is true of the event of boy and dog going out into the forest (3) and boy returning with frog (10), in which no actual motion is depicted in the pictures but the motion is suggested in the flow of the story, or inferred from the gesture of a character. The frog’s escape scene (1) and the owl scene (4) elicited relatively few manner verbs in English; non-manner verbs, such as *escape* and *come (out)*, were used quite often, respectively (*escape* encodes path and purpose, but not manner).

English and Japanese are different to some extent in the motion events that elicited manner specification. The boy’s climbing of a rock (7) elicited more manner expressions in English than in Japanese ($p < .001$ by Fisher’s exact test), with English speakers almost always using *climb*, which encodes manner (CLAMBERING) as well as path (ASCENDING), but many Japanese speakers failed to convey CLAMBERING with a verb, simply using the verb *nobor* ‘go up’, though some chose to indicate it in the first verb of a compound verb. On the other hand, the running scenes (5, 6, 8) were described by the Japanese speakers with a manner verb as often as (or even more often than) by English speakers; some of the English speakers preferred to use causative verbs such as *carry* in the deer’s running event (8).

The owl scene has been used in Slobin (2006) for a crosslinguistic comparison, and this scene elicited manner expressions in Japanese 21% of the time, which is slightly more frequent than the manner expressions used

in German (18%, according to Slobin (2006)), although a statistical test cannot be done due to the lack of sufficient information on the German data.

3.3. Discussion

This first set of data suggests that English and Japanese tend to be different in terms of the overall frequency of manner expressions. Overall, English speakers chose to use motion-based descriptions for a wider range of events, and manner expressions in more motion-based descriptions. This high frequency of manner specification is seen in the main verb position, where manner verbs are almost always used. Japanese speakers tend to use manner verbs in the main verb position, but not so frequently as modifiers of the main verb, avoiding a complex structure in which a manner verb modifies a path verb or a deictic verb. This avoidance presumably leads to the relative infrequency of manner expressions in Japanese. These results align with the claims made in Slobin (2006).

Another clear difference between the two languages concerns the lexical inventory of specific manner expressions. Japanese specific manner expressions are predominantly adverbials, while general ones are verbs; by contrast almost all manner expressions in English are verbs. These results provide additional support for Slobin's (2006) claims.

However, our data also suggest that manner salience is more complex than previous thought. Our data suggest that one must not be led to believe that English speakers are freely able to express manner in the main verb position in describing all scenes. As noted above, other verbs can often be used in the main verb position, depending on particular motion events described, as is the case with the scene of the boy falling into a pond (*fall*) or the owl coming out of a tree (*come*), suggesting that manner salience depends on when to choose manner verbs over other verbs in the main verb position (see also Morita this volume on this point).

Another notable observation is the fact that the Japanese data contain instances of expressive manner expressions, which were absent in the English data. It is fair to say that the use of such expressions gives a qualitative richness to the manner descriptions in Japanese. Given the small number of instances, however, it is difficult to make generalizations.

The results of this experiment also point to the methodological limitations of frog stories in evaluating manner salience. As mentioned above, different scenes elicit different numbers of manner expressions. This means that reliance on a single scene for crosslinguistic comparison, as in Slobin (2006), can be misleading, and diverse scenes must be considered in order to determine the manner salience of a language. One instance of this is the absence of a clear depiction of walking in the frog story pictures.⁷ Presumably because of this absence, we obtained few uses of verbs of walking, and we failed to examine the frequency difference of default manner expressions in the two languages. Furthermore, there are limitations due to the very nature of picture books. As pointed out above, some motion events are only implied in the pictures and manner of motion is often not directly depicted. Frequency of manner expressions may be different if manner is visually presented in real time. Related to this is the fact that sounds are only inferred from the silent pictures, which might have affected the use of mimetics.

Experiment 2 fills these gaps by using videos clips with sound tracks, depicting various motion events, including motion in different manners of walking and more specific, highly marked manners.

⁷ The boy in the pictures may be walking most of the time, but such motion happens mostly in the transitions of pictures, unlike the running of the dog and that of the deer, which are actually depicted.

4. Experiment 2: Motion with sounds

The second experiment is a production experiment in which participants were asked to verbally describe short videos. One feature of the experiment is the diversity of manners examined. The manners of motion in the video include walking and more unusual manners such as skipping in human motion clips. On the basis of Oh's (2003) finding in Korean (see Section 2.3), we predicted that many speakers would drop the most unmarked manner of human motion in the videos (i.e. walking). The experiment also includes different manners of object motion, such as a ball rolling and bouncing, which have not been much discussed in manner salience research.

Another feature of the experiment is the use of audio recordings. Previous experimental studies on motion event descriptions (e.g. Fortis et al. 2011; Kopecka and Narasimhan 2012; Oh 2003) have paid little attention to the sounds with which motion events occur despite the fact that we often experience motion events both visually and auditorily in real life (see Sekuler et al. 1997; Meyer and Wuerger 2001 for evidence showing how intimately sounds are related to the perception of motion). This experiment tested whether, as suggested by Experiment 1, Japanese speakers use more expressive manner expressions than do English speakers when describing the motions in videos containing sound.

4.1. Method

Participants were asked to verbally describe 30 short videos in one or two sentences after watching each of them. The test phase followed two practice videos, and the test videos were presented in random order. The stimulus set consists of 25 self- or caused-motion events of a human or nonhuman mover and 5 fillers that do not involve a motion event. Table 1 describes the 30 video clips.

Table 1. The stimulus videos used in Experiment 2

Human motion	Walking	<p>A man walks by.</p> <p>A woman in high heels walks quickly down the stairs.</p> <p>A man walks by with his keys in his right hand.</p> <p>Three men walk out of the room one after another.</p> <p>A man walks toward the camera.</p> <p>A man with his keys in his right hand walks toward the camera.</p>
	More marked	<p>A man shuffles his feet through pebbles.</p> <p>A woman skips down a ramp.</p> <p>A man jumps off a low ledge.</p> <p>A man stomps up the stairs toward the camera.</p> <p>Three guys come hurrying into a room.</p>
Object motion	Self-motion	<p>A stone falls into the pond.</p> <p>A basketball falls onto a metal plate.</p> <p>A leaf falls off a tree.</p> <p>A balloon whistles around the room.</p> <p>A small ball rolls across a brick ground.</p> <p>A small ball bounces down metal stairs.</p>
	Caused-motion	<p>A man pushes a cart on an uneven concrete ground.</p> <p>A man drags a sleeping bag down the stairs.</p> <p>A man tosses a key onto the floor.</p> <p>A man flies a paper airplane across the room.</p> <p>A woman rolls a basketball down a slope.</p> <p>A man drops a coin into a jar.</p> <p>A woman drops an empty can down the stairs.</p> <p>A man hits a ping pong ball against the wall.</p>
Filler		<p>A woman opens an umbrella and rests it on her right shoulder.</p> <p>A man flips through pages of a book.</p> <p>A woman dials a rotary phone.</p> <p>A man closes a locker door.</p> <p>A man slams a notebook onto a desk.</p>



a. A man jumps off a low ledge.



b. A stone falls into the pond.

Figure 6. Example videos from Experiment 2

12 native Japanese speakers (3 men and 9 women; ages: 22–50, $M = 28.5$; from west or central Japan) and 12 native English speakers (8 men and 4 women; ages: 20s–50s, $M = \text{mid-20s}$; from the United States or the United Kingdom) participated.

4.2. Results

The results of this experiment have been reported in a preliminary way in Akita et al. (2010). In the previous analysis, we examined the data in terms of the overall frequencies of manner and deictic expressions that occurred. No analysis was made in terms of the frequencies of different types of manner expressions, nor were scene-based analyses of the data conducted. Here, we present our reanalysis of the data, with all manner expressions subcategorized for the discussion in this paper, and with scenes divided into different categories.⁸

⁸ We acknowledge the permission of Kyoko H. Ohara, who was one of the

Overall results are shown in Figure 7, which exhibits the average number of manner expressions per response in each language, with their subtypes indicated. In contrast to the frog stories data, in which manner is very often not indicated in motion event descriptions (see Figure 2), speakers used manner expressions with an average of over 0.8 times per response in this experiment.

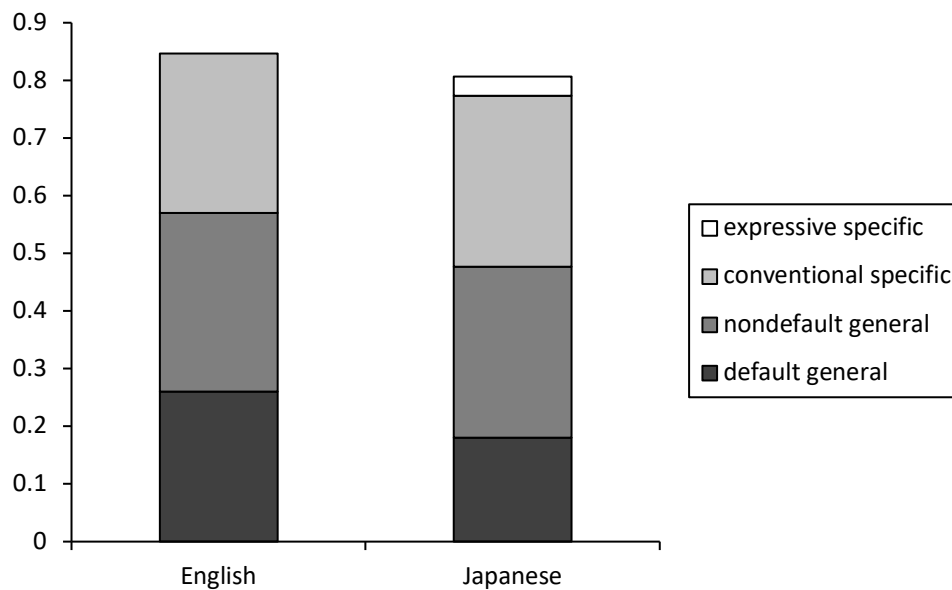


Figure 7. Average frequency of manner expressions per response in Japanese and English (Experiment 2)

There was not much difference between English speakers and Japanese speakers in the total frequencies of manner expressions per response. The data also show that the frequency of default general manner expressions was slightly more frequent in English than in Japanese, though statistically nonsignificant (paired t -test: $t(24) = 1.55$, $p = .14$ (*n.s.*)). The contrast was absent for the frequencies of nondefault general manner expressions ($t(24) =$

co-researchers in the previous stage of this project, for our reanalysis of the data obtained.

0.00, $p = 1.00$ (*n.s.*), and for the frequencies of conventional specific manner expressions ($t(24) = 0.28$, $p = .78$ (*n.s.*)). Expressive specific manner expressions were only found in Japanese, and were significantly more frequent than in English ($t(24) = 3.46$, $p < .01$). Fisher's exact test for the proportion of general vs. specific manner expressions revealed a slight crosslinguistic difference ($p = .09$), with English speakers using relatively more instances of general manner expressions than Japanese speakers, and Japanese speakers, relatively more instances of specific manner expressions.

The results of an analysis of sound vs. nonsound manners are given in Figure 8, which shows the total number of sound/nonsound manner expressions elicited in each language. We obtained relatively more instances of sound manner expressions than in frog stories. There are some differences between the two languages in terms of the use of sound/nonsound manner expressions. The proportion of sound manner expressions is significantly higher among Japanese speakers than English speakers ($\chi^2(1) = 10.63$, $p < .01$).

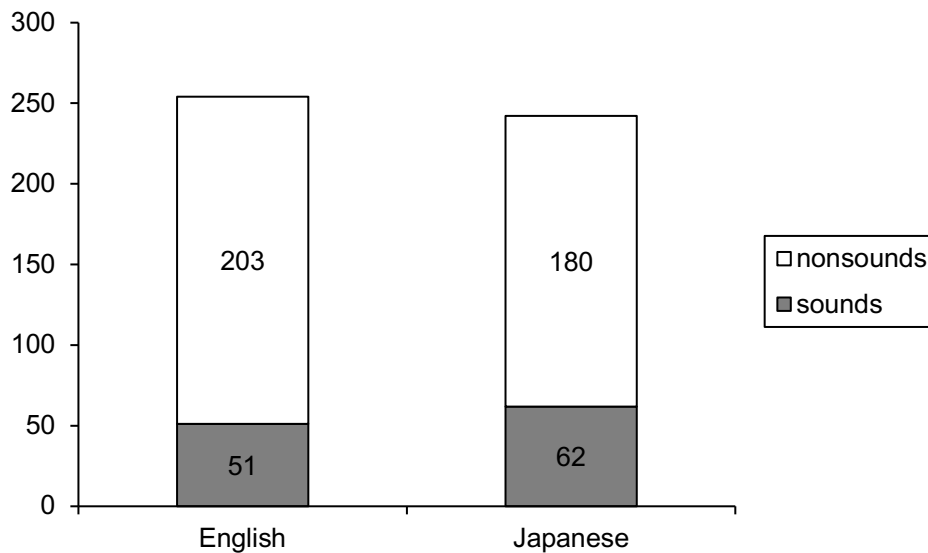


Figure 8. The total number of sound and nonsound manner expressions (Experiment 2)

Mimetics (both for sound and nonsound manners) account for 52 (52.53%) out of 99 specific expressions in Japanese, consistent with the previous translation studies in which mimetics in Japanese make up for the small size of its specific manner verb lexicon (Ohara 2002; Sugiyama 2005).

Examples of manner expressions are given in (9) and (10). The actual videos were cited as still images in Figure 6 above.

(9) General manner expressions:

a. Japanese (used in a compound verb):

Otokonohito ga poketto ni te o ire-nagara
 man NOM pocket LOC hand ACC put.in-while
*dan no ue kara **tobi-ori-masi-ta.***
 step GEN top from jump-go.down-POL-PST

‘A man *jumped* down from the top of a step with [his] hands in [his] pockets.’

b. English:

*Man **jumped** off the short wall.*

(10) Specific manner expressions:

a. Japanese (adverbial mimetic):

Tiisana mono ga mizu no tamat-te i-ru
 small thing NOM water GEN accumulate-CONJ be-NPST
*tokoro ni **potyan to** oti-ta. (S1)*
 place GOAL MIM QUOT fall-PST

‘A small object fell into a pool of water *with a plop.*’

b. English:

*A ball fell into the water. It **plopped** into the water, actually.*

All Japanese verbs and mimetics and English manner verbs that were produced are listed in (11) and (12), respectively.

(11) Japanese:

a. General expressions (verbs; 8 types, 139 tokens):

aruk ‘walk’ (54), *tob* ‘fly, jump’ (18), *korogar/koroge* ‘roll’ (17),
korogas ‘roll (causative)’ (17), *tobas* ‘fly (causative)’ (13), *oto-o*
tate ‘making sounds’ (11), *hasir* ‘run’ (5), *isog* ‘hurry’ (4)

b. General expressions (adverbs; 2 types, 2 tokens):

urusaku ‘noisily’ (1), *yukkuri* ‘slowly’ (1)

c. Specific expressions (verbs; 6 types, 33 tokens):

kake ‘run briskly’ (13), *sukippu-su* ‘skip’ (12), (*asi-o*) *hikizur* ‘drag
(one’s feet)’ (6), *zyanpu-su* ‘jump’ (1), *hazum* ‘bound’ (1), *maw*
‘soar’ (1)

d. Specific expressions (adverbial or holophrastic mimetics) (38 types,
53 tokens):

i. Conventional (28 types, 43 tokens):

tyari(i)n ‘clinking’ (5), *pyuu(Q)* ‘whizz’ (4), *potyan* ‘plop’ (3),
zyarizyari ‘(sound of gravel)’ (3), *bataQ* ‘thud’ (2), *katukatu*
‘clicking’ (2), *korokoro* ‘rolling’ (2), *ponpon* ‘popping’ (2),
gangan ‘clanging’ (1), *garagara* ‘rattling’ (1), *gatagata* ‘rattling’
(1), *gatagoto* ‘rattling’ (1), *gatan* ‘clunk’ (1), *guruguru* ‘whirling’
(1), *harahara* ‘fluttering’ (1), *kankan* ‘clanging’ (1), *karankaran*
‘clanging’ (1), *katin* ‘clink’ (1), *konkon* ‘knocking’ (1), *kotukotu*
‘clicking’ (1), *petapeta* ‘slapping’ (1), *pon* ‘pop’ (1), *poto* ‘plonk’
(1), *pyon* ‘hopping’ (1), *ton* ‘tapping’ (1), *tyariQ* ‘clink’ (1),
zurizuri ‘(sound of footsteps on gravel)’ (1)

ii. Expressive (10 types, 10 tokens):

dadadadadaaa ‘rushing’ (1), *dandandandan* ‘bamming’ (1),
garangarangaran ‘rattling’ (1), *gatagatagatagatagata* ‘rattling’ (1),
patapataaQ ‘pattering’ (1), *piiiiQ* ‘whizz’ (1), *sarasarasara*

‘swishing’ (1), *tontontonton* ‘tapping’ (1), *zaazaazaa* ‘slithering’ (1), *zyarazyarazyarazyara* ‘jingling’ (1)

(12) English:

a. General (verbs: 8 types, 162 tokens):

walk (77), *roll* (27), *bounce* (19), *run* (12), *jump* (10), *make sounds* (9), *fly* (7), *bound* (1)

b. General (adverbs; 5 types, 9 tokens):

quickly (4), *loudly* (2), *noisily* (1), *quietly* (1), *silently* (1)

c. Specific (verbs: 34 types, 73 tokens):

skip (12), *shuffle (one’s feet)* (6), *stomp* (6), *drag (one’ feet)* (4), *splash* (4), *whistle* (3), *bang* (2), *clang* (2), *clatter* (2), *clip* (2), *hop* (2), *plop* (2), *rattle* (2), *rush* (2), *scream* (2), *bound* (1), *click* (1), *clop* (1), *clump* (1), *crack* (1), *crash* (1), *crunch* (1), *dash* (1), *float* (1), *hiss* (1), *march* (1), *ratter* (1), *ruffle* (1), *saunter* (1), *screech* (1), *slap* (1), *slide (one’s feet)* (1), *squeak* (1), *squeal* (1), *tremble* (1)

d. Specific (adverbs; 2 types, 8 tokens):

briskly (7), *rapidly* (1)

Manner verbs in English were very frequently expressed in the main verb position (65.9%), while only 21.1% of manner verbs in Japanese (40 out of 190) were used in the main verb, with the rest used as a modifier of the main verb (a path verb or a deictic verb). So, unlike frog story narrators, Japanese-speaking participants of this experiment chose to indicate manner very often by utilizing an optional element modifying the main verb.

As listed in (11bii), many of the Japanese mimetics (19.2%), particularly onomatopoeic ones, were found in their expressive forms. Some examples are cited in (13).

(13) a. Vowel lengthening:

Nanka gomū-huusen ga pīīīīQ te...
 well rubber-balloon NOM MIM QUOT
nandesyoo, tobi-mawat-te i-mas-u.
 how.to.say fly-go.around-CONJ be-POL-NPST
 ‘Well, a rubber balloon is flying around *with a long whistle.*’

b. Vowel lengthening:

Onnanohito ga kaidan o patapataaQ to
 woman NOM stairs ACC MIM QUOT
oto o tate-nagara kake-ori-te
 sound ACC make.stand-while run-go.down-CONJ
iki-masi-ta.
 go-POL-PST
 ‘A woman went running down the stairs making a *pattering* sound.’

c. Stem repetition:

Daisya ga gata-gata-gata-gata-gata to i-u
 cart NOM MIM QUOT say-NPST
oto o tate-nagara toot-te iki-masi-ta.
 sound ACC make.stand-while pass-CONJ go-POL-PST
 ‘A cart went by making a *repetitive rattling* sound.’

No single expressive feature was found in the English manner verbs in (12). This result testifies to the correlation between expressiveness and grammatical realization seen in Section 2.3, given the difference between verbs in English and adverbials in Japanese for the use of expressive forms.

Clearer tendencies were found through a scene-based analysis made in terms of the nature of moving entities and the defaultness of manners involved. Figures 9 and 10 show whether English and Japanese speakers used at least one manner expression for human and object motion scenes, respectively.

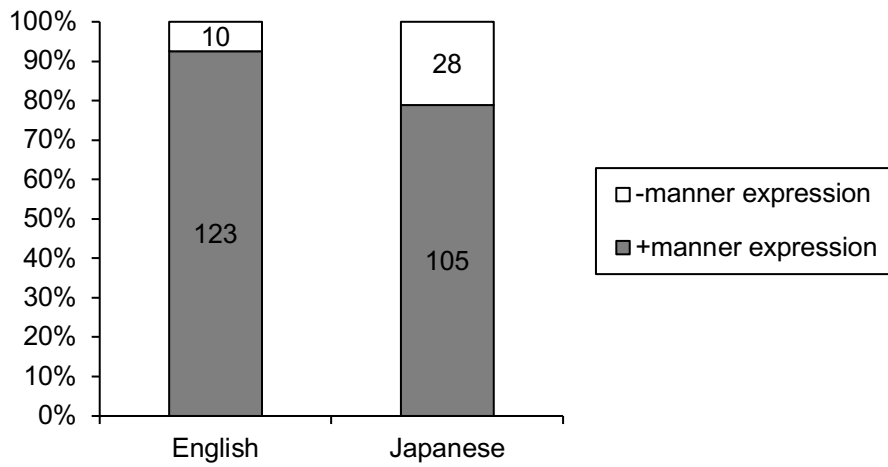


Figure 9. The proportion of descriptions with manner expressions for human motion scenes (Experiment 2)

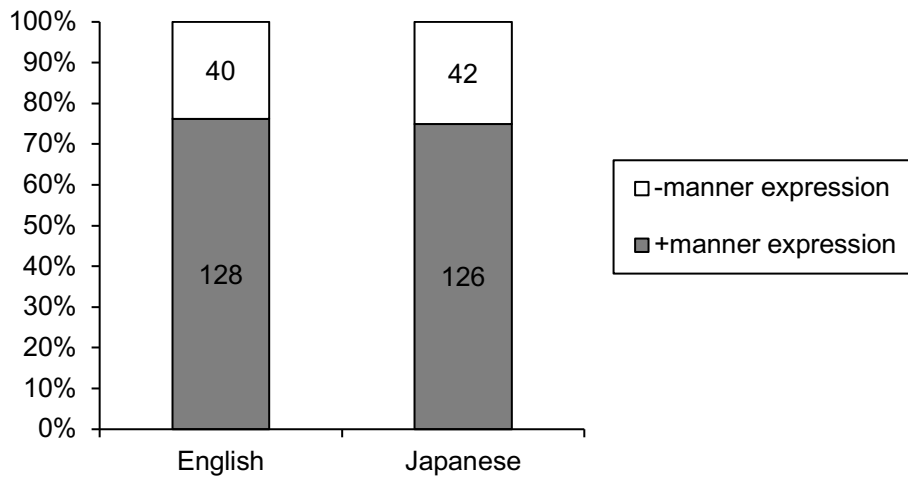


Figure 10. The proportion of descriptions with manner expressions for object motion scenes (Experiment 2)

As shown in Figure 9, English speakers tended to use more manner expressions, especially *walk*, for human motion scenes than Japanese speakers ($\chi^2(1) = 9.95, p < .01$). By contrast, as shown in Figure 10, no such crosslinguistic difference was obtained for object motion scenes ($\chi^2(1) = 0.06, p = .80$ (*n.s.*)).

Human motion scenes were further divided into walking scenes and non-walking scenes. Data from the walking scenes are presented in Figure 11, which shows the average use of manner expressions per video clip per speaker.

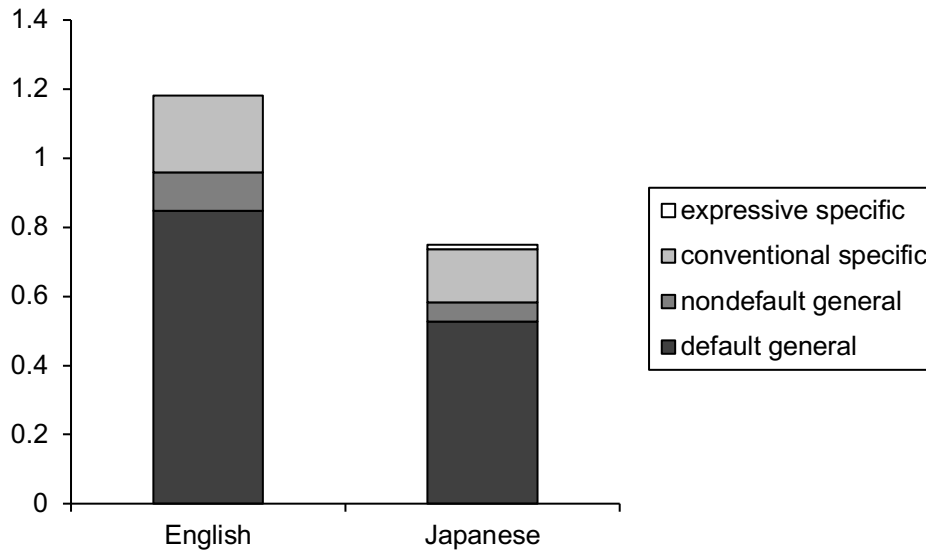


Figure 11. The average frequency of manner expressions per response for walking scenes in Japanese and English (Experiment 2)

English speakers used more manner expressions than Japanese speakers in describing walking events ($t(5) = 4.43$, $p < .01$ by a paired t -test). Notably, they almost always used the default expression (i.e. *walk*) for each of these walking clips, while Japanese speakers used it much less often ($t(5) = 3.56$, $p < .05$ by a paired t -test). In almost all cases, the verb *walk* occupied the main verb position in English. It is noteworthy that this was even true of the scenes in which a moving person moves toward the camera, where the verb *come* could have been alternatively used (see Matsumoto et al. 2017).

Non-walking human motion scenes did not exhibit significant difference between the two languages ($t(4) = 0.43$, $p = .69$ (*n.s.*)), as shown in Figure 12, suggesting that nondefault manner elicits reference to it in

similar ways in the two languages, when manner is visually presented in motion.

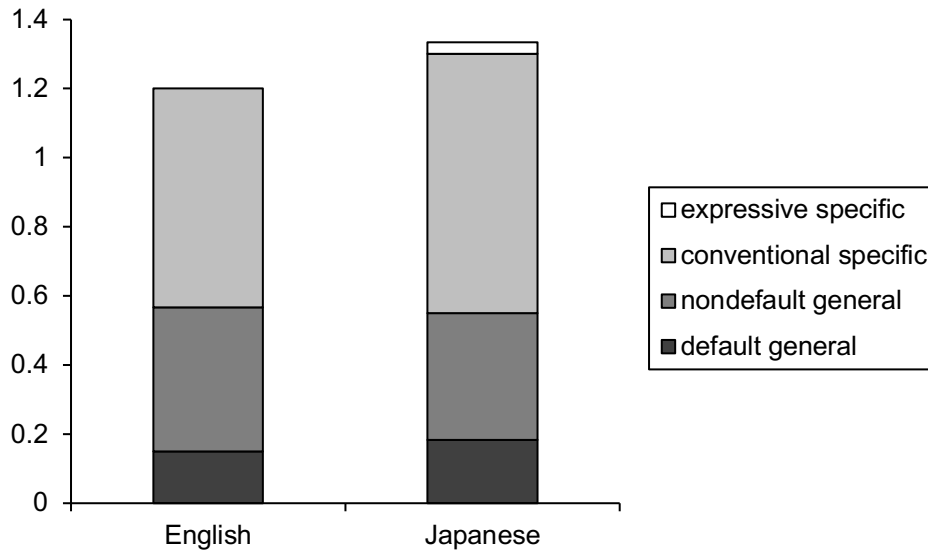


Figure 12. The average frequency of manner expressions per response for non-walking human motion scenes in Japanese and English (Experiment 2)

Object motion, whether it is self-motion or caused-motion, gives a slightly different picture, as shown in Figures 13 and 14. In both cases, English speakers did not use more manner expressions than Japanese speakers ($t(5) = 0.50, p = .64$ (*n.s.*) for object self-motion, and $t(7) = 0.50, p = .63$ (*n.s.*) for object caused-motion). The use of specific manner in object caused-motion is rare in English.

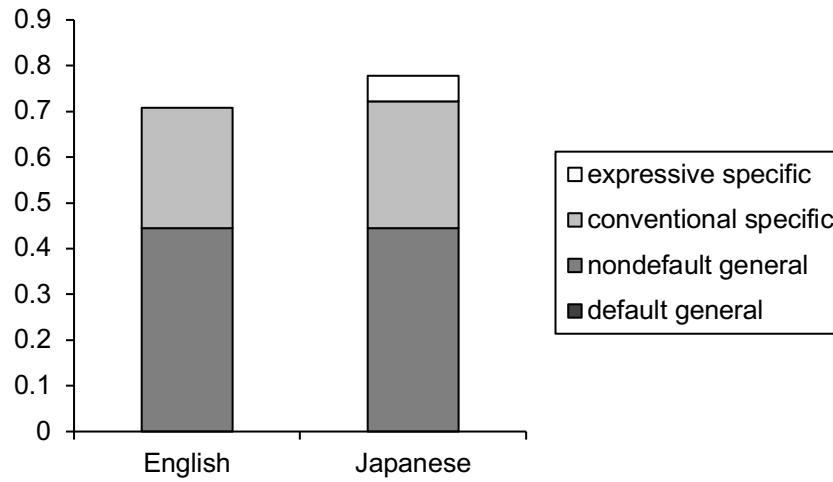


Figure 13. The average frequency of manner expressions per response for object self-motion scenes in Japanese and English (Experiment 2)

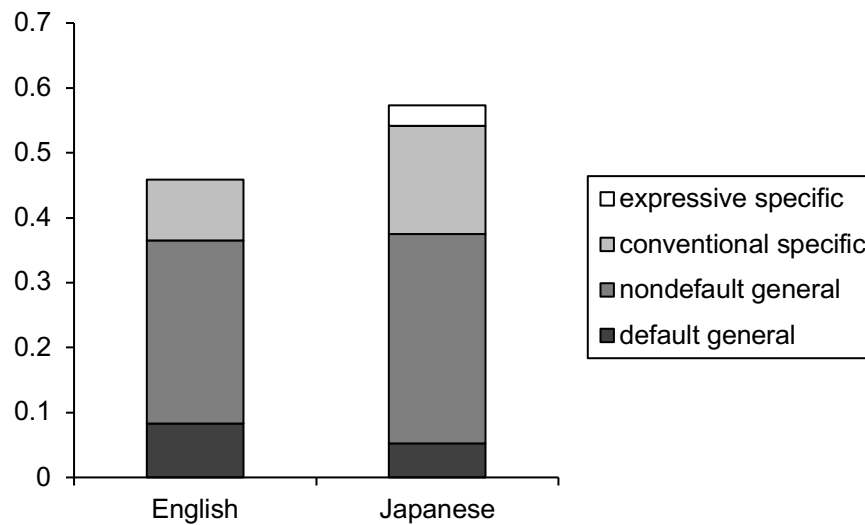


Figure 14. The average frequency of manner expressions per response for object caused-motion scenes in Japanese and English (Experiment 2)

Object motion scenes differ from human motion scenes in that sound manner expressions are used relatively more often in both languages. Sound manner expressions account for 12.1% of the total manner expressions for human motion scenes in English and 14.9% in Japanese, but they account

for 33.7% of the total manner expressions for object motion scenes in English and 41.7% in Japanese. These differences were statistically significant (English: $\chi^2(1) = 17.08$, $p < .001$; Japanese: $\chi^2(1) = 16.86$, $p < .001$).

Object motion scenes elicited fewer manner expressions than human motion scenes (cf. Figures 11–14). This is particularly true in the three falling scenes in our experiment, for which manner expressions are used only 33.3% of the time in Japanese and 36.1% in English, almost all of which describe the sounds made. The responses to these scenes are distinct in that path verbs tend to occupy the main verb (i.e. head) position not just in Japanese but also in English, with the verb *fall* accounting for 66.7% of the main verbs used.

The low frequency of manners in object caused-motion scenes in Figure 12 is due partly to the use of Means-of-Causation verbs in the main verb position, as in (14a). Japanese speakers also used Means verbs, but often with mimetics describing the sound that the moving objects make, as in (14b).

- (14) a. *A man tosses a key on the ground.*
 b. *Kagi ka nanika o yuka ni tyariin to nage-ru.*
 key or what ACC floor GOAL MIM QUOT throw-NPST
 ‘[One] throws a key or something onto the floor, making a *clinking* sound.’

4.3. Discussion

English turned out to be not so much different from Japanese in terms of the overall token frequency of manner expressions in the present experiment. This can be attributed to the nature of the task used. Unlike the frog story

elicitation of motion descriptions, speakers in this experiment were visually presented with the actual manner of motion. In addition, they were asked to describe each motion event, one at a time, and therefore participants in this experiment were expected to describe aspects of a motion event, unlike frog story narrators who had more freedom in limiting the information they conveyed. These differences presumably led to a higher frequency of manner indications in Japanese speakers in this experiment.

However, a closer look at our data reveals interesting differences between the two languages. First, Japanese speakers use relatively more sound manner expressions than English speakers in comparison to nonsound manner expressions. Second, the manner frequency depends on the nature of the particular motion events described. The walking events elicited a clear difference between the two languages: the use of the default general manner expression for the walking events is clearly more frequent in English than in Japanese. Manner expressions used by Japanese speakers tend to be more specific than those of English speakers; Japanese speakers less often used the default general manner expression for walking scenes, and more often used specific manner expressions for object motion, for which they sometimes used expressive manner expressions. These results suggest that Japanese manner expressions tend to be qualitatively richer in information.

Our results suggest that finer-grained classification of manner expressions is useful in characterizing manner frequency. This includes the distinction between sound and nonsound manner expressions, as well as the distinction of defaultness and expressivity in addition to specificity.

The special status of the default general manner expression in Japanese can be seen in the lexicalization of compound verbs. Japanese has productive verb-verb compounds, typically combining a manner verb and a path verb, such as *hasiri-der* (run-exit) ‘run out’. However, the default manner verb *aruk* ‘walk’ does not participate in compounding (e.g. **aruki-der* (walk-exit)). Instead, the participial form *arui-te* must be used to

modify the path verb to convey the same idea. Chen and Matsumoto (2018) argue that this lack of compounds with *aruk* is because of the default status of walking in human motion. Given this default status, the simple use of a path verb can be interpreted as indicating that the motion is executed in a non-special manner (e.g. walking), making the existence of compound verbs with *aruk* unnecessary.

5. Typological implications

The two crosslinguistic experiments have revealed some phenomena consistent with previous discussions based on the typology of path coding positions. At the same time, we have uncovered some phenomena that are not necessarily congruent with the typology. Here, we discuss the role of the typology of path coding positions as an explanation of manner salience differences among languages.

The high frequency of manner expressions in English has been discussed with respect to the typology of path coding positions (Slobin 1996). Path coded in prepositions and particles allows manner to be expressed in the main verb, even when it is a default manner. At the same time, our data suggest that it is a mistake to believe that manner can be freely expressed in the main verb position in English under all circumstances. English does have deictic verbs and some path verbs that can occur in the main verb position. Our data suggest that falling events are very often expressed with path verbs in the main verb position, and in such a case path wins the competition against manner for the main verb position. Competition between manner and deixis is subtler. English is known as a language that favors a manner verb over a deictic verb under normal circumstances (Matsumoto 2017), and our finding from the scene of walking toward the camera in Experiment 2 is consistent with this. At the

same time, Matsumoto et al. (2017) suggest that the appearance out of a closed space favors the use of *come (out)*, which is consistent with the owl scene description in the frog stories, which elicited more instances of *come* than manner verbs. Once the main verb position is filled by a non-manner verb, manner may not be expressed unless really necessary. Given these cases, manner frequencies may depend on the pattern of choice of manner verbs vs. other verbs in the main verb position where competition occurs. English does allow the use of non-manner verbs under certain circumstances (e.g. situations of falling or appearing).

The role of default manner expressions in overall manner frequencies and the role of competition invite broader typological investigations. In a related work whose preliminary findings are reported in Matsumoto et al. (2013), we conducted an experiment in 17 languages, using video clips that differ in terms of three parameters of motion—manner (walking, running, and skipping), path (to, into, and up), and deixis (toward the speaker/camera, away from the speaker/camera, and deixis-neutral). The English and Japanese results are consistent with the present results. Walking was significantly more often left unmentioned than the other two manners of motion in both Japanese and English, but especially so in Japanese. Presumably, this difference can be attributed to the typology of path coding positions: Path is expressed in prepositions and other head-external elements in English, allowing manner to fill the main verb slot, even when the manner information is predicted from the context, unless specific circumstances lead to the use of a non-manner verb in the main verb position.

The frequency of default manner verbs in other languages suggests that the frequency contrast we reported for Japanese and English can be extended to other languages of the same typological types, but only to some extent. Languages in which path is coded in head-external elements, such as German and Russian, indeed tend to refer to both default and nondefault

manner expressions, whereas those languages that code path in the main verbs, such as Sidaama, Italian, and French indeed drop default manner often (see Morita this volume for French). However, there are languages that behave differently. Hungarian and Newar, both head-external path-coding languages, omit default manner about 60% of the time. Why are these languages different?

As suggested earlier, there is a mistake in the assumption made in the logic leading from head-external path coding to manner salience. First, in some head-external path-coding languages, the main verb position may be regularly filled by a light verb or a deictic verb, and so manner is not expressed in this position. Newar (Matsuse this volume) is an example, in which path is expressed by case markers and/or adverbs, with deixis in the main verb; manner is expressed outside the main verb root (a verb-based adverbial or a nonhead element of a compound verb). In fact, Newar has a relatively low manner frequency, frequently dropping ‘walking’ information (Matsuse, personal communication). What contributes to manner salience is *where manner is typically expressed*, not where path is expressed. Note that manner in Newar is not subordinate *to path*, and so what counts is not the relative position of manner with respect to path, unlike what Slobin (2004) states.

Second, in other head-external path-coding languages manner may be expressed in the main verb position but the slot can be occupied by some other verbs as well, and so manner may not be expressed freely. Hungarian is an example, in which manner verbs usually occupy the main verb slot, but they give way to deictic verbs in the descriptions of walking events, unlike what we found in English (Eguchi this volume). Manner salience appears to be dependent on such preference of manner over other competing components. Koga (2017) argues that the absence of competition for the main verb position for manner is an important factor for the frequency of manner expressions, based on a comparison of Russian, German, English,

and Japanese (see Morita this volume for additional discussion of competition).

Another aspect of manner salience potentially related to the typology of path coding positions concerns the expressions of sound manners and expressiveness. The fact that Japanese has a rich lexicon of frequently used sound mimetics may be partially related to the typology of path coding positions. If path occupies the main verb position, then manner should be in other positions, typically the adverbial, which is suitable for expressive expressions, due to the correlation between expressiveness and grammatical realization. It should be noted, however, that manner can also be expressed in adverbials in some head-external path-coding languages, as in Newar. Again, what is important is where manner is typically expressed, not where path is expressed. In addition, it may be true that known mimetic-rich languages are localized to the verb-framed or head path-coding language group (Wienold 1995), but not all head path-coding languages have a developed mimetic inventory (e.g. Romance languages). Thus, the salience of mimetics in the description of manner appears to have an incomplete correlation with the typology of path coding positions.

6. Conclusion

In this chapter, we have proposed a fine-grained analysis of manner salience on the basis of two contrastive studies in Japanese and English. We argued that a finer-grained classification of manner expressions involving defaultness and expressivity, as well as the distinction of sound vs. nonsound manner expressions, is necessary in capturing patterns in the use of manner expressions. The revised classification of manner expressions allowed us to develop a complex picture of the typology of manner salience.

Our discussion suggests that different factors contribute to the frequencies of manner expressions: status of manner (default or otherwise), the availability of visual information of manner, etc. Manner salience is not so much determined by the path coding positions, as the position of manner indications. In addition, it is affected by the way manner competes with path and deixis for expression in particular morphosyntactic positions such as the main verb; this competition influences whether manner can be expressed without constraint.

Another important implication is that languages may be different in the quality of manner information they can convey. Japanese speakers may not refer to manner as often as English speakers, but when they do, they tend to convey specific information, often in an expressive way. Such expressive expressions may be frequent in some of the languages in which manner is expressed through adverbial means, which is preferred for the expression of expressivity.

We hope that future research finds how many parameters the typology of manner salience consists of and how they are correlated with each other. More specifically, we have to take a closer look at the semantics of nondefault conventional manner expressions, which appears to be far more complex than “general vs. specific” (see Boas 2008). The discussion may also benefit from a consideration of default manner expressions for movers other than human adults, such as babies, birds, fish, airplanes, and balloons. Such considerations will reveal more about the different degrees to which speakers of different languages use manner expressions in describing motion events.

Abbreviations

ACC: accusative

CONJ: conjunctive

COP: copula	DAT: dative
GEN: genitive	MIM: mimetic
NML: nominalizer	NOM: nominative
NPST: nonpast	PASS: passive
POL: polite	PST: past
Q: first half of a geminate cluster	
QUOT: quotative	TOP = topic

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