

## **How Motion Sounds/Looks in Japanese and English: Mimetics in the Typology of Motion Expressions\***

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### **1. Introduction**

#### Research question:

Do mimetics (or sound-symbolic words, ideophones, expressives, etc.) allow Japanese speakers to express sounds and visual manners of motion frequently?

#### Background:

(1) Talmy's (1991, 2000) motion typology for encodings of *path*:

- a. S(atellite-framed) languages (e.g., *Germanic*, Slavic, Finno-Ugric):

The bottle floated *out of* the cave.

- b. V(erb-framed) languages (e.g., Romance, Semitic, Basque, *Japanese*, Korean):

La botella *salió* de la cueva flotando.

the bottle went.out from the cave floating

(2) Slobin's (1996, 1997, 2000, 2004, 2005) manner-saliency hypothesis (based on frog stories, novel translations, and newspapers):<sup>1</sup>

- a. S-languages = high-manner-salient:

manner of motion in clause head (e.g., *float*) → frequently expressed

- b. V-languages = (mostly?) low-manner-salient:

manner of motion in adjunct (e.g., *flotando*) → frequently omitted

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<sup>1</sup> For example, he compares the frequency of manner verbs used for "the owl's exit" scene in frog stories in several languages (Slobin 2000: 113; Japanese data are indebted to Yo Matsumoto):

V-languages: Spanish: 0%; French: 0%; Turkish: 0%; Hebrew: 3%; but *Japanese*: 21%  
S-languages: Dutch: 17%; German: 18%; English: 32%; Russian: 100%

→ Recently, however, Slobin (2004: 250-251) himself acknowledges that the existence of rich manner morphemes like ideophones can contribute to manner saliency.

→ Our project:

Examines this possibility based on a Japanese-English (V- and S-languages, respectively) contrastive experiment using video clips (cf. Naigles et al. 1998; Gennari et al. 2002; Oh 2003; Allen et al. 2007).

← Japanese has a rich mimetic lexicon for sounds and visual manners (Kita 1997; Hamano 1998; Tamori & Schourup 1999; Kageyama 2007; among others).

Conclusions in advance:

• *Quantity:*

Frequency of  $\left\{ \begin{array}{l} \text{manner-of-motion expressions: } J = E \text{ (mostly)} \\ \text{path-of-motion expressions: } J < E \end{array} \right.$

• *Quality:*

Expressiveness of (auditory) manner of motion:  $J > E$

→ Need of another typology for the use of manner expressions.

## 2. Previous English-to-Japanese Translation Analyses

Suggesting the high manner saliency of Japanese.

### 2.1. Ohara (2002: 135-136)

Databases (originals and their translations):

20 motion events from *The Adventures of Sherlock Holmes* and *Anne of Green Gables*.

Result: “Our Japanese translators ... chose to preserve manner information most of the time.” (No quantitative data are given.)

(3) a. English original (*Sherlock Holmes*):

We *rattled* through... gas-lit streets...

b. Japanese translation:

Gasutoo-ni teras-are-ta yoru-no gairo-o, ... basya-wa gotogoto-to  
gas-DAT light-pass-PST night-GEN street-ACC carriage-TOP MIM-QUOT

hasiri-tuduke...<sup>2</sup>

run-continue

‘(Our) carriage continued rattling through gas-lit night streets, and...’

## 2.2. Sugiyama (2005)

Database (original and its translation):

Ch. 6 of *The Hobbit* (33 events described with a manner-of-motion verb in English).

Result: Frequency of manner-including descriptions: 23/33 (69.7%)

→ Lacunae:

- Statistical reliability.
- Spontaneous speech data.
- Auditory manner information.<sup>3</sup>

## 3. Experiment

### 3.1. Purposes

- To examine the putative contribution of mimetics to high manner saliency in spontaneous Japanese speech.
- To consider audible manner of motion in the motion typology.

### 3.2. Method

- Subjects:
  - 10 native Japanese speakers living in Kansai (western Japan) or Tokai Area (central Japan); 7 females, 3 males (age: 22-50,  $M = 27.1$ ).
  - 7 native American-English speakers living in the San Francisco Bay Area or visiting Kobe Univ. as international students; 3 females, 4 males (age: mostly 20s).
- Dates of experiment: March 2007-August 2008.

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<sup>2</sup> Abbreviations: ACC = accusative; CONJ = conjunctive; DAT = dative; GEN = genitive; MIM = mimetic; NEG = negative; NMZ = nominalizer; NOM = nominative; NPST = nonpast; POL = polite; PST = past; QUOT = quotative; TOP = topic

<sup>3</sup> Although Slobin (2004: 255: n. 5) does not include sound in manner noting that “[m]anner’ covers an ill-defined set of dimensions that modulate motion, including motor pattern, rate, rhythm, posture, affect, and evaluative factors”, it seems to be regarded as a kind of CO-EVENT like visible manner that accompanies motion (Talmy 1985).

- Stimuli:
  - 30 short (2-7-sec) video clips of human/nonhuman self-/caused-motion events (26) and nonmotional events (4) for distraction; presented in three types of random order.

Table 1. Stimulus video clips

#	Events	Unusualness of manner	
		Auditory	Visual
Practice 1	A boy is bouncing a pingpong ball on a paddle.	0.60	n/a
Practice 2	Five men come into a room one after another.	0.00	0.65
1	A stone falls into a pond.	0.45	0.15
2	A ball rolls on a brick ground.	0.00	0.05
3	A man shuffles across the gravel.	0.60	1.00
4	A man walks by with keys in his right hand.	0.40	0.00
5	A boy flies a paper airplane across a room.	0.05	0.30
6	A woman skips down a ramp.	0.05	0.60
7	A woman makes a basketball roll down a slope.	0.20	0.45
8	A man walks by.	0.05	0.00
9 (dummy)	A girl opens her umbrella.	0.10	n/a
10	A boy hits a pingpong ball against a wall.	0.85	0.55
11	A man comes walking.	0.10	0.10
12	A boy puts a coin into a jar.	0.55	0.05
13	A man jumps down a short ledge.	0.30	0.50
14	Three men walk out of a room one after another.	0.20	0.35
15 (dummy)	A boy is flipping pages of a book.	0.00	n/a
16	A woman tosses an empty can down the stairs.	0.85	0.65
17 (dummy)	A boy closed a locker.	0.50	n/a
18	A boy stomps up the stairs.	0.65	0.05
19	A man hits a desk with a notebook.	0.80	0.55
20 (dummy)	A girl dials the telephone numbers on a rotary phone.	0.30	n/a
21	Three men run into a room in haste one after another.	0.60	0.70
22	A ball bounces down the metal stairs.	0.65	0.50
23	A balloon whistles around a room.	0.90	0.90
24	A basketball drops on an iron board.	0.85	0.20
25	A leaf falls from a tree.	0.05	0.05
26	A man comes walking with keys in his right hand.	0.35	0.00
27	A boy tosses a key onto the floor.	0.70	0.45
28	A woman in high heels runs down the concrete stairs.	0.35	0.15
29	A man pushes a cart by across a rugged ground.	0.70	0.15
30	A boy drags a sleeping bag down the stairs.	0.20	0.60

Note: The “unusualness of auditory/visual manner” scores indicate averages of 9 Japanese speakers’ evaluation of how unusual and distinctive the auditory and visual manner of motion contained in each video clip is, respectively (for the degree of manners see Wienold 1995: 319-320; Slobin 1997: 459, 2000 as well as Oh 2003). Evaluation was conducted on a three-graded scale: “1” (not distinctive) to “3” (very distinctive). Here the averages are recalculated to range from 0 to 1. Significant positive correlations were observed between the unusualness of auditory manner and frequency of sound descriptions for motion events (J:  $r = .48$ ,  $N = 26$ ,  $p < .05$ ; E:  $r = .39$ ,  $N = 26$ ,  $p < .05$ ), but no correlations between the unusualness of visual manner and frequency of visual manner descriptions (J:  $r = .08$ ,  $N = 26$ , *n.s.*; E:  $r = .04$ ,  $N = 26$ , *n.s.*).

- A 10-sec interval after each clip for answering.
- Viewed by QuickTime Player 7.1-7.5 on an Apple MacBook or an IBM ThinkVision desktop computer. Auditory information was presented over headphones.
- Instructions (presented on the screen; Japanese speakers were instructed in Japanese):  
 “In this experiment, you will see 30 short video clips on this screen. Within the interval after each clip, please describe its content in one or two sentences based on what you saw and what you heard. We will start with two practice clips. Please be ready.”

### 3.3. Predictions

(4) *The narrative weight view* (predicted by the original manner-saliency hypothesis; see Akita, to appear, a):

a. Japanese:

Since Japanese mimetics mainly appear as adjuncts (Hamano 1998: 12), they tend to be omitted to keep down the narrative weight.

b. English:

Since both auditory and visual manners are most likely to be encoded in verbs in English, they are frequently expressed.

(5) *The lexical repertory view*:

a. Japanese (derived from the translation studies):

Since mimetics are readily available in Japanese (Tamori & Schourup 1999), its speakers frequently express auditory and visual manners of motion.

b. English:

Since English has many sound-emission and manner-of-motion verbs (Snell-Hornby 1983; Levin et al. 1997), its speakers frequently mention auditory and visual manners.

Table 2. *Abundance of manner-of-motion morphemes in Japanese and English*

	Database	Auditory	Visual
J	Takehi et al. (1996)	264 (sound mimetic roots)	124 (mimetic roots for visual manner of motion)
E	Levin (1993)	118 (sound-emission verbs)	142 (verbs for visual manner of motion)

$$\chi^2 (1) = 33.02, p < .001$$

(6) Or the mix of the two views.

NB: These are not directly derivable from Talmy’s (1991) typology of encodings of *path*.

→ A separate typology for manner expressions (see Beavers, Levin, & Tham 2008)?<sup>4</sup>

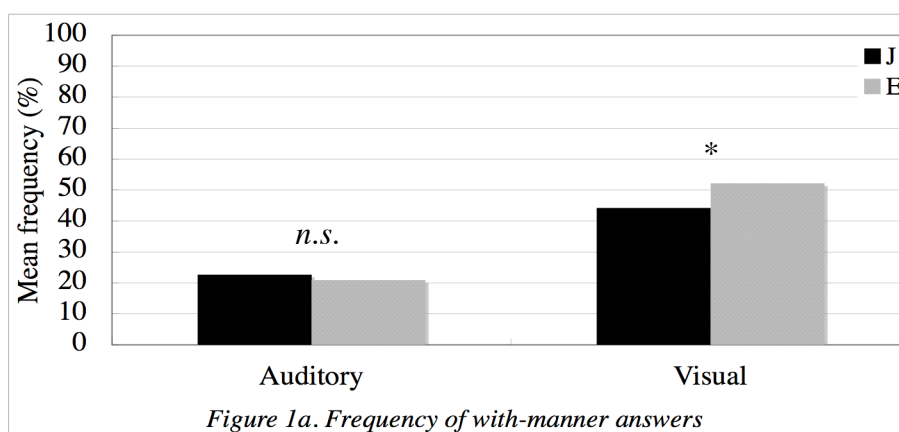
<sup>4</sup> See Matsumoto (2003a: 62-67, 2003b: 408-413) for his “manner categorization parameter.” He states, for example, that there are V-languages (e.g., French) that do not have a rich sound-symbolic vocabulary.

### 3.4. Results and Discussion

#### 3.4.1. Overall results<sup>5, 6</sup>

- See Appendix for lists of manner-of-motion expressions we obtained.
- Significant crosslinguistic difference was obtained *only* for the frequency of answers containing at least one *visual* manner expression (J < E:  $t(25) = -2.12, p < .05$ ).

→ Partly supportive to the NarWei view and the LexRep view.

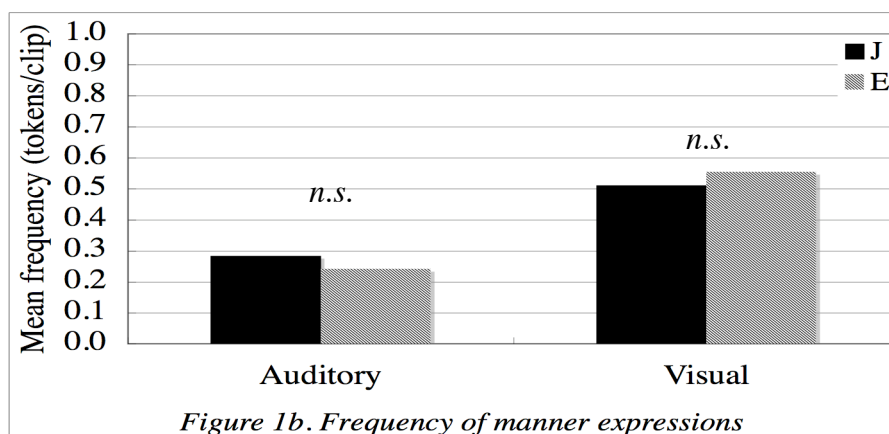


Note: “With-manner answers” stand for answers containing one or more manner expressions. Hereafter, Japanese and English will be compared in percentage, for the number of subjects was different between the two languages (J = 10 vs. E = 7).

\* $p < .05$ , \*\*\* $p < .001$

- However, there was *no significant difference at all* between the two languages when the number of manner expressions was compared.

→ Supportive to the LexRep view.



<sup>5</sup> 2-way non-repeated measures ANOVAs revealed no significant individual variation in most Japanese cases and in all English cases:

- Overall frequencies of manner expressions in Japanese:  $F(4, 45) = 2.31, p < .05$
- Frequencies of mimetics in Japanese:  $F(1, 18) = 2.00, n.s.$
- Overall frequencies of manner expressions in English:  $F(4, 30) = 1.05, n.s.$

<sup>6</sup> Parallel results were obtained for self- and caused-motion clips.

### 3.4.2. Attention to non-unusual manner of motion

Naigles et al. (1998):

Speakers of Spanish (a V-language) expressed manner of motion as frequently as speakers of English with the help of manner adverbials.

↑

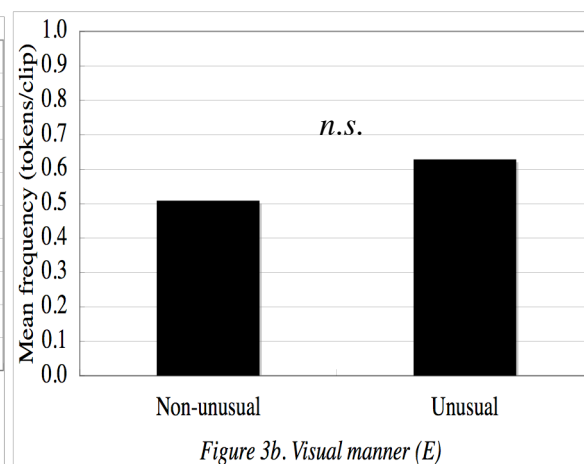
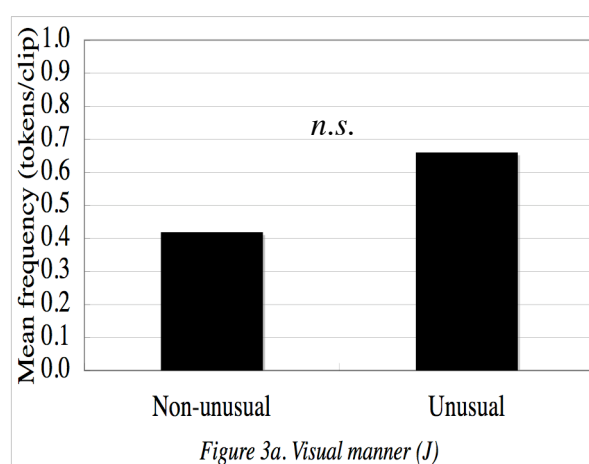
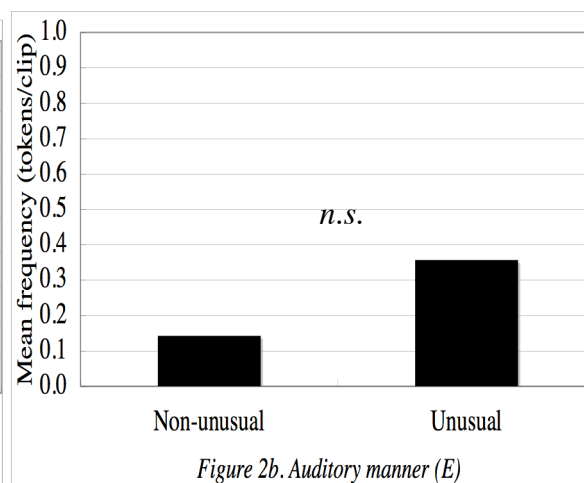
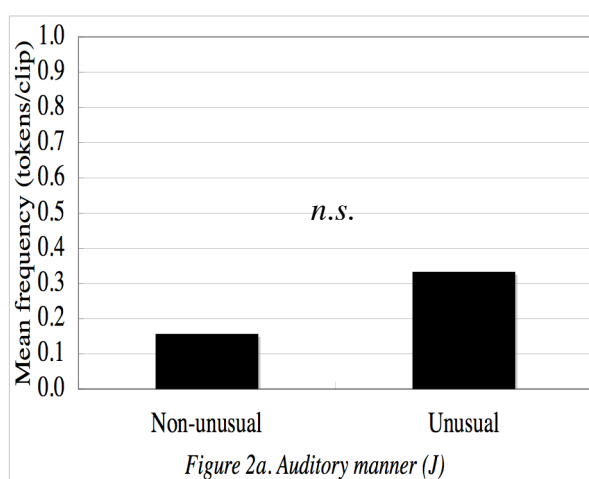
Oh (2003):

Naigles et al.'s results should be attributed to the *unusualness* of some manners they selected (e.g., crawling on all fours, slide-walking, spinning).

→ Does the same refutation reject our LexRep view?

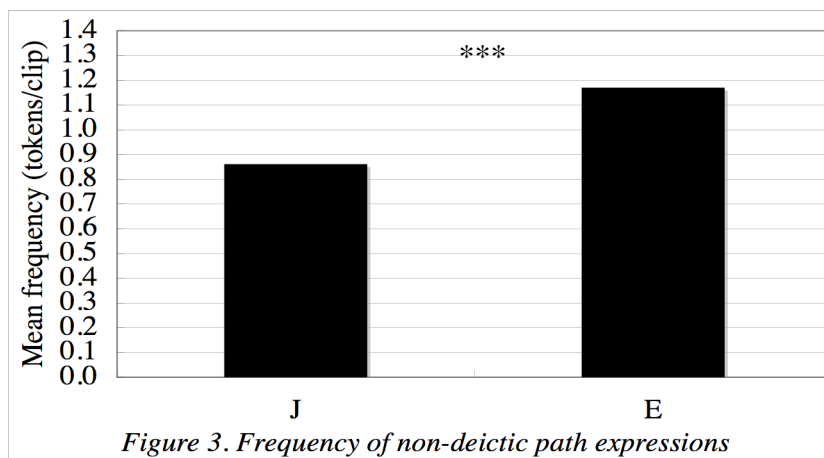
– **No!**

There was no significant difference in both languages between “unusual-manner” and “non-unusual-manner” clips (those with a mean evaluation less than 0.5 in Table 1).



Cf. Frequency of non-deictic path elements:<sup>7</sup>

J < E ( $t(25) = -4.20, p < .001$ )



(7) Path PPs vs. path verbs (Clip 10):

a. The man hit the pingpong with [a] pingpong paddle at the wall and it bounced off the wall back toward outside of the camera. (E)

b. Takkyuu-no raketto-de pinpon-dama-o kabe-ni ate-masi-ta-ga,  
 table.tennis-GEN racket-with pingpong-ball-ACC wall-at hit-POL-PST-but  
 patat-to oti-te booru-ga kaet-te-ku-ru koto-wa nakat-ta. (J)  
 MIM-QUOT fall-CONJ ball-NOM return-CONJ-come-NPST NML-TOP NEG-PST

‘[A man] hit a pingpong ball at the wall with a racket, but [it] dropped with a flop and the ball never returned.’

→ V-language users tend to use a smaller number of path elements than S-language users because accumulation of path verbs require high narrative cost (Slobin 2004: 239).

→ Frequency of path expressions is related to the motion typology, but that of manner expressions is not necessarily so.

Cf. Nonmotional events:

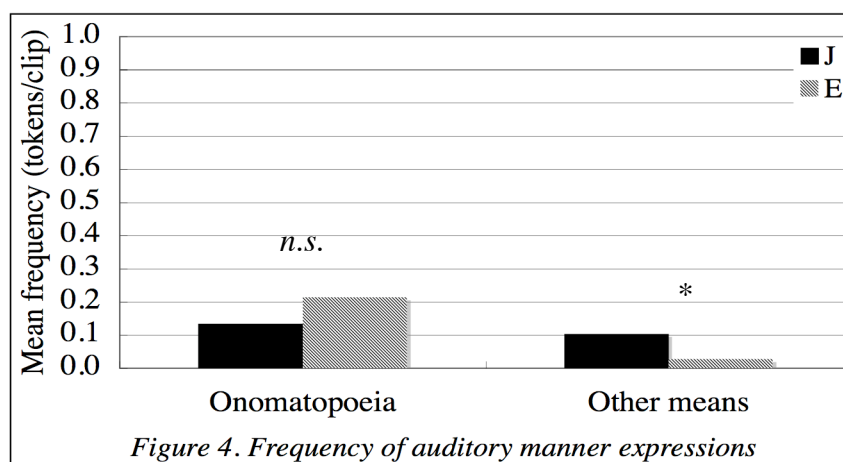
In fact, the frequency of sound expressions did not differ significantly between motional and dummy nonmotional clips (J:  $t(28) = .90, n.s.$ ; E:  $t(28) = .89, n.s.$ ).

<sup>7</sup> Deictic verbs were incomparably more frequent in Japanese than in English ( $t(25) = 6.29, p < .001$ ). In this relation, Slobin (2004: 253) remarks that required final deictic verbs suppress manner expressions in Korean (see also Oh 2003: 19), a V-language with a rich mimetic lexicon (Sohn 1994). Considering the observed high manner saliency of Japanese, this suppression account seems worth reconsideration.



### 3.4.3. Expressiveness of auditory manner expressions

- Frequency of onomatopoeic expressions (i.e., sound mimetics, sound-emission V/N) was not different between Japanese and English ( $t(25) = -1.57, n.s.$ ).<sup>8</sup>



- But unconventionality/expressiveness/iconicity of onomatopoeia: J > E  
 → Onomatopoeia: J = open class vs. E = closed class?

#### (8) Onomatopoeia obtained (J) (24 types):<sup>9</sup>

- Nanka gomū-huusen-ga piiiit-te...nandesyoo... tobi-mawat-te-mas-u. (Clip 23)  
 well rubber-balloon-NOM MIM-QUOT well fly-go.around-CONJ-POL-NPST  
 ‘Well, a rubber balloon is flying around with a ffee.’
- ban(-to) ‘slam’, dan(-to) ‘slam’, dandandandan(-to) ‘stamping’, katyakatya ‘clink’,  
 gangan(-to) ‘bang’, garagara(-to)/garangarangaran(-to) ‘clang’ (2), gatagatagata-  
 gatagata(-to) ‘rattle’, patat(-to) ‘clap’ (2), patapataat(-to) ‘clap’, poto ‘plop’,  
 potyan(-to) ‘plop’, pyuut(-to)/piiiiit(-te) ‘whizz’ (3), sarasarasara(-to) ‘rustle’,  
 ton(-to) ‘bling’, tontontonton(-to) ‘bling-bling’, tyaratyara/tyarityari ‘jingle’ (6),  
 tyari(i)n(-to)/tyatit(-to) ‘plink’ (5), zaazaazaa(-to) ‘swoosh’, zyarizyari/zyarazyara-  
 zyarazyara (for gravel) (3)

#### (9) Onomatopoeia obtained (E) (25 types):

- A balloon whistled across the room as the air blew out of it. (Clip 23)
- clang, clatter, click, clink, clip-clap, clump, crash, crunch, jiggle (2), jingle (2), plop,  
 plump, rattle, ruffle, rustle, scream (2), screech, slam (3), slap (4), slash, smack (2),  
 splash, squeak/squeen, stomp (5), whistle (2)

<sup>8</sup> “Onomatopoeia” (or phonomimes) only refers to mimetics for sounds.

<sup>9</sup> Numbers in parentheses indicate numbers of tokens only when the word occurred more often than once.

#### 4. Conclusions

- Japanese speakers mentioned both auditory and visual manners of motion with comparable frequency to English speakers with the help of mimetics and other nonhead expressions.
- Auditory manner information was more expressively conveyed in Japanese by means of unconventional mimetics (see Akita, to appear, b).
- “Manner saliency” of a language is not necessarily correlated with the typology of path of motion.  
→ Slobin’s manner-saliency hypothesis needs to be reconsidered outside the motion typology (as well).

#### Possible criticisms:

- All our video clips were unusual.
- We used few boundary-crossing clips.
- Our instructions saying “based on what you saw and what you heard” were unfair.

#### **Appendix: Manner-of-Motion Expressions Obtained**

##### A. Auditory manner expressions

##### (i) Non-onomatopoeic auditory expressions obtained (J):

- a. Mizuiro-no hito-ga *urusaku* arui-ta.  
sky.blue-GEN person-NOM noisily walk-PST  
‘A man in sky blue walked noisily.’

- b. *oto-o tate-nagara* ‘making a noise’, *monosugoku ookii oto-ga simas-i-ta* ‘[I] heard a tremendously big noise’, *wazawaza oto-o tatete* ‘making a sound deliberately’, etc.

##### (ii) Non-onomatopoeic auditory expressions obtained (E):

- a. Someone *noisily* walked across the gravel.
- b. *it is very noise, a noisy sidewalk, rolls silently, walked loudly*

## B. Visual manner expressions

(iii) Visual manner mimetics obtained (J) (5 types):

- a. Sakamiti-o booru-ga *korokoro-to* korogat-te-it-ta.  
slope-ACC ball-NOM MIM-QUOT roll-CONJ-go-PST  
'A (small) ball rolled down a slope.'
- b. *dadadadadaa(-to)* 'hurriedly', *guruguru* 'whirling', *korokoro* 'rolling', *poit(-to)*  
'chucking', *pyon(-to)* 'hopping'

(iv) Visual manner verbs obtained (incl. those in V-V compounds) (J) (11 types):

*aruku* 'walk' (51), *haneru* 'hop', *hazumu* 'bounce', *kakeru* 'run' (10), *korogaru/korogeru*  
'roll' (14), *mau* 'soar', *sukippu-suru* 'skip' (9), *tiru* 'fall, scatter', *tobu* 'fly, jump' (14),  
*zyanpu-suru* 'jump'

(v) Other visual manner expressions obtained (J):

*asi-o hikizuri-nagara* 'dragging [his] feet', *awatete* 'hurriedly', *ryoosi soroete* 'with  
[his] legs close together', *tanosi-sooni* 'cheerfully', etc.

(vi) Visual manner verbs and verb phrases obtained (E) (13 types):

- a. A ball *rolled* across the ground.
- b. *bounce* (10), *fly* (2), *drag his feet/sneakers* (3), *hop*, *jump* (6), *roll* (11), *run* (9), *rush*,  
*saunter*, *shuffle (his feet)* (4), *skip* (7), *tremble*, *walk* (40)

(vii) Other visual manner expressions (E):

*quickly*, *draggily*

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