

# **A Corpus-based Account of Fictive Motion Sentences in Japanese FrameNet**

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# Abstract

- **Frame-semantic** analyses of **corpus** data in **Japanese FrameNet (JFN)** led to the following:
  - To account for the occurrences of Japanese Fictive Motion (FM) sentences, in comparison with those of English, **new distinctions on Motion-related frames** are needed.
  - The proposed framal distinctions based on image schema differences help **refine the existing conditions on FM sentences** by Yo Matsumoto (1996).

# Outline

## 1. Background

- 1) Fictive Motion
- 2) Previous Analyses
- 3) Japanese FrameNet

## 2. Analysis

- 1) Purpose of the Study
- 2) Method
- 3) Results

## 3. Discussion

## 4. Conclusion

# 1. Background

## 1) Fictive Motion

### Actual Motion

- (1) a. *The dog **ran** into the kitchen.*
- (2) a. *The children **went** from one kennel to another.*

### Fictive Motion (Subjective Motion)

- (1) b. *The highway **runs** through the mountains.*
- (2) b. *The mountain range **goes** from Canada to Mexico.*

Only “Coverage Path” FM expressions in this paper

“(the linear entities are) conceptualized as having a leading edge that is in virtual motion, or as being scanned along its length by one’s focus of attention”

(Talmy 1983:236)  
4

## 2) Previous Analyses

### Ruppenhofer 2006

Frequency of Fictive Construal in English:

Relatively rare for **Location-Oriented Motion (LOM) verbs** (*arrive, leave, cross*) compared to **path\_shape verbs** (*zigzag, meander*)

- i) Counts (from BNC)
- ii) The NP *the road* as the subject of a motion verb (from BNC)
- iii) NP ellipsis of Location NP is rare for LOM verbs in fictive contexts (from Google)

# Matsumoto 1996

FM expressions in English and Japanese are subject to:

- ***The Path Condition***

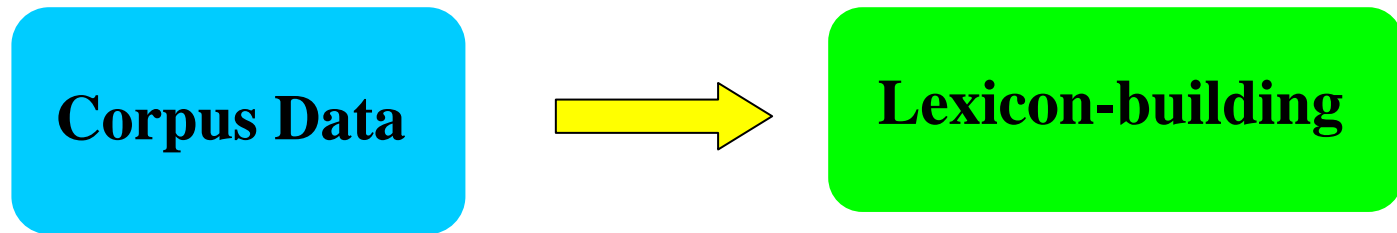
- Some property of the **path of motion** must be expressed

- ***The Manner Condition***

- No property of the **manner of motion** can be expressed unless it is used to represent some correlated property of the path

# 3) Japanese FrameNet (JFN)

## Frame-Semantic Analysis



- **JFN Corpus: 200 million words (Newspaper, Novels)**
- **Frame semantics: Each word is described in terms of the conceptual “frame” it evokes**

**(In Collaboration with English FrameNet)**

<http://jfn.st.hc.keio.ac.jp/>

## 2. Analysis

### 1) Purpose of the Study

- To investigate the **occurrences of fictive construal of Japanese motion verbs**, in comparison with that of English motion verbs by Ruppenhofer 2006
- To **examine Matsumoto's Path and Manner Conditions** with respect to corpus data



## 2) The JFN Method

- Self\_motion frame: The **Self\_mover**, a living being, moves under its own power in a directed fashion, i.e. along what could be described as a **Path**, with no separate vehicle.

### (3) a. Actual Motion

**syoonen ga trakku o hasiru.**

boy                  NOM track          ACC run

‘The boy runs the track.’

### b. FM

**kokudoo wa ugan o hasiru.**

national-road TOP right-bank ACC run

‘The national road runs (along) the right bank.’

Traversing frame: A **Theme** changes location with respect to a salient **Path** location.

(4) a. Actual Motion

**kazokuzure ga sakura namiki o tooru.**  
family NOM cherry.blossom trees ACC pass  
'Families go through the cherry blossom trees.'

b. FM

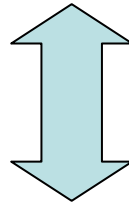
**kokudoo wa minato o tooru.**  
national-road TOP harbor ACC pass  
'The national road goes past the harbor.'

# 3) Results

## i) Frequency of Fictive Construal of Japanese motion verbs (from JFN Corpus)

Verb Type (Frame Name)	Verb lemma	English gloss	# of fictive (% of fictive)	Sample size
Self_motion	hasiru	"run"	4 (3.8)	105
LOM: Arriving	itaru	"reach"	4 (4.0)	101
	tuku	"arrive"	0 (0.0)	101
	hairu	"enter"	0 (0.0)	100
	kuru	"come"	0 (0.0)	103
LOM: Traversing	tooru	"pass"	3 (6.0)	50
	wataru	"cross"	0 (0.0)	101
LOM: Departing	deru	"exit"	0 (0.0)	100
Path_shape	magaru	"meander"	5 (5.0)	101
Motion_directional	noboru	"climb"	0 (0.0)	109
	oriru	"descend"	0 (0.0)	101
<b>?</b>	turanuku	"go through"	4 (4.0)	101
	nukeru	"go past"	1 (1.0)	101
	hanareru	"go away from"	0 (0.0)	102
	sou	"go along"	1 (1.0)	101

i) Japanese: Not much difference in frequency in FM construal between LOM, Path\_shape, and Self\_motion verbs.



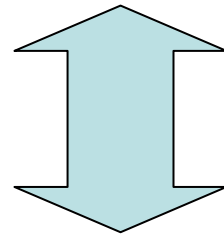
English: FM construal is relatively rare for LOM verbs than path\_shape verbs (Ruppenhofer 2006)

ii) FM sentences with the NP *kokudoo wa* 'national. road TOP' as the subject of a motion verb (from Google)

Verb lemma	English gloss	Verb Type (Frame Name)	# of token
hasiru	"run"	Self_motion	29
tooru	"pass"	LOM: Traversing	29
tuuka suru	"go past"	?	9
mukau	"go toward"	?	5
wataru	"cross"	LOM: Traversing	4
iku	"go"	Motion	4
turanuku	"go through"	?	4
hanareru	"go away from"	?	4
sou	"go along"	?	4
sugiru	"go past"	?	3
nukeru	"go through"	?	3
nanka suru	"go down south"	Motion_directional	3
oodan suru	"traverse"	LOM: Traversing	2
itaru	"reach"	LOM: Arriving	2
noboru	"climb"	Motion_directional	2
magaru	"meander"	Path_shape	2

n = 123

ii) Japanese: *tooru* 'pass' (LOM: Traversing verb) is just as frequent as *hasiru* 'run' (Self\_motion verb).



English: The majority is contributed by *lead* (Cotheme), *run* (Self\_motion), and *climb* (Motion\_directional). LOM verbs are rare. (ibid.)

iii) NP ellipsis of Location NP (from Google)

◆ *tooru* 'pass' (LOM: Traversing)

FM (with Subject NP *kokudoo wa* 'national.road  
TOP'): 10%

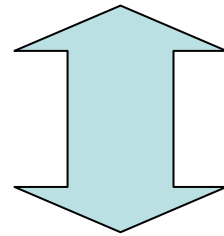
Actual Motion: 75%

◆ *hasiru* 'run' (Self\_motion)

FM (with Subject NP *kokudoo wa* 'national.road  
TOP'): 24%

Actual Motion: 71%

iii) Japanese: NP ellipsis of Location NP seems rarer in FM contexts than in actual-motion contexts, but not restricted to LOM verbs.



English: For LOM verbs, NP ellipsis of Location NP is much rarer in FM contexts than in actual-motion contexts. (ibid.)



# 3. Discussion

- i) We need to take into account **Image-schematic frames** in discussing Japanese motion verbs and FM sentences.
  - Interaction between Trajectory determined by the motion of **Theme** and the salient Landmark



Go\_through Frame



Go\_along frame

## Go through Frame

(5) a. Actual Motion

*Gabyoo ga syasin o turanuiteiru.*

pushpin NOM photo ACC go.through

‘The pushpin goes through the photo.’

b. FM

*Sono tiiki o kokudoo ga turanuiteiru.*

that area ACC national-road NOM go.through

‘The national road goes through the area.’

## Go along Frame

(6) a. Actual Motion

*Kawa no nagare ni sette aruku.*

river GEN flow LOC go.along-TE walk

‘Walk along the flow of the river.’

b. FM

*Kono kokudoo wa toomeihandoo to setteiru.*

this national-road TOP COM go.along

‘This national road goes alongside the Tomei Hando road.’

## ii) Revision of the Path and Manner Conditions

FM expressions in Japanese are subject to:

- ***The Revised Path Condition***

A **Location** on the Path or **Direction** of the path of motion must be expressed

- ***The Revised Manner Condition***

No property of the manner of motion can be expressed unless it is used to represent the **Path-shape**

# 4. Conclusion

- **Frame-semantic** analyses of **corpus** data of Japanese FM sentences in **JFN**:
  - **Image-schematic frames** of Motion are proposed.
  - Revisions of **the existing Path and Manner conditions** on FM sentences are proposed.

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# Selected References

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- Ruppenhofer, Josef. 2006. “Fictive Motion: Construction or Construal?” Paper read at the 32<sup>nd</sup> Annual Meeting of the *Berkeley Linguistics Society*.