The 2009 International Conference on Role and Reference Grammar
University of California, Berkeley, August 9, 2009.

Argument structure of compound verbs in Japanese: Against "bottom-up" models

Kiyoko Toratani
ktora@yorku.ca

1. Introduction[1]

- Japanese lexical V1-V2 compound verbs: at least 1,800 (Morita 1990).

(1)

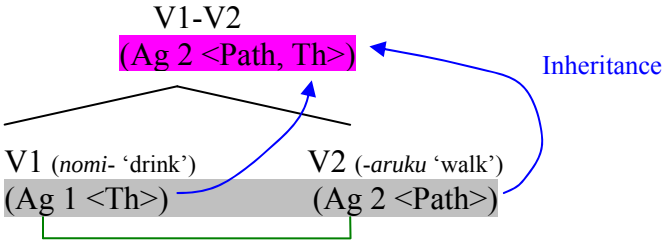
	V1-V2		
a.	osi-akeru	push-open	'open by pushing'
b.	oi-mawasu	chase-turn	'chase around'
c.	oti-tuku	drop-attach	'calm down'
d.	uri-isogu	sell-hurry	'hurry to sell'

- Previous studies: e.g.,

-Fukushima 2005: protoroles, obliqueness hierarchy
-Kageyama 1993: unaccusativity and transitivity
-Gamerschlag 2000, Naumann and Gamerschlag 2003: 'coherence' + 'connexion'
-Matsumoto 1996: Subject

→ '**bottom-up**' (cf. Spencer 2006)

(2) Argument structure of *nomi-aruku* drink-walk 'bar-hop'



(adapted from Kageyama 1993:107)

- Bottom-up models→ 2-staged rules:
  (i) Identification; (ii) Permission & Prohibition

- Goal:
  - To offer an alternative account working within the framework of RRG (Van Valin and LaPolla 1997, Van Valin 2005), hypothesizing that only one verb serves as an argument contributor, whereas the other element is non-argument contributing.

[1] This handout is the updated version of the hard copy distributed on the day of the presentation.

- Organization:
  - Section 2: “Base verb” vs. “ affix”
  - Section 3: Logical structures of compound verbs.
  - Section 4: Case marking
  - Section 5: Concluding remarks

2. On ‘affixes’

2.1. Libben (2005)

- A psycholinguistic study of English nominal compounds by Libben (2005:277):

> Consider the morpheme *bat*. As associated with a particular comic book and movie hero, this morpheme has acquired considerable frequency as an initial compound constituent. *Batman* drives a *batmobile* and a *batboat*, and rides a *batcycle*. He flies a *batplane*, climbs a *batrope*, wears a *batcape*, and works in a *batcave*. All of these compounds are transparent if one posits that the bound compound modifier *bat-*, rather than the free morpheme *bat*, is the one that is employed in compound processing.

→New way of looking at V-V: one member of a compound verb: decategorized element.

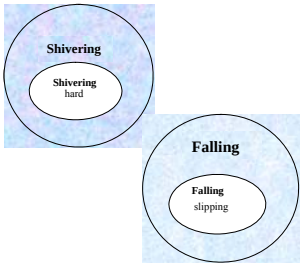
- Proposal:

(3)

-Analyzable =	Base Verb	+	Affix
	•Semantic Head =Superordinate (Lyons 1977)		•Event specifier
	•Argument contributing		•Argument non-contributing

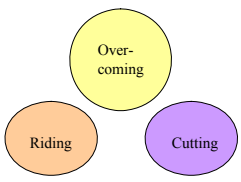
a. kodomo-ga hurue-agat-ta
child-NOM shiver(V1)-rise(V2)-PAST
‘The child shivered considerably.’

b. taoru-ga te-kara suberi-oti-ta
towel-NOM hand-from slip-fall-PAST
‘The towel fell slipping from my hand.’



-Unanalyzable =One word

c. kunao-o nori-kit-ta
difficult.situation ride-cut-PAST
‘(We) overcame the difficult situation.’

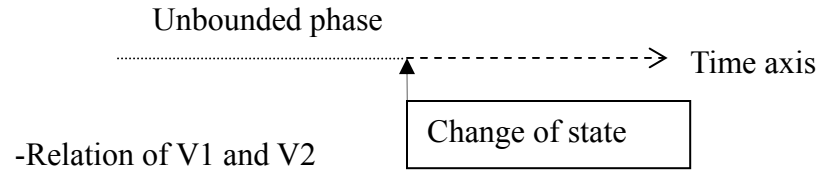


3. Logical structures of analyzable compound verbs

3.1. Prefix(V1)-base verb(V2)

3.1.1. Intransitive[activity (atelic)]-intransitive[change-of-state (telic)]

(4)	a.	suberi-otiru	slip-fall	'fall slipping'	$[I\text{-}I]_I$
	b.	mai-agaru	dance-rise	'rise as if dancing'	$[I\text{-}I]_I$
	c.	huki-deru	blow-exit	'spout'	$[I\text{-}I]_I$
	d.	hasiri-modoru	run-return	'return running'	$[I\text{-}I]_I$



- Possible LS=Bottom up?

(5) *suberi-otiru* slip-fall : ?? **do'** (x, [**slip'** (x)]) & INGR **fallen'** (x)
cf. Active accomplishment, *eat y*: **do'** (x, [**eat'** (x, y)]) & INGR **consumed'** (y)

Table 1: Diagnostic tests for Japanese

	Test 1 (*-te-i*)	Test 2 (citation form)	Test 3 (*for* phrase)	Test 4 (durative *in* phrase)	Test 5 (*-owar*)	Test 6 (*yukkuri*)	Test 7 (*zyozyo-ni*)
Active accomplishment	Progressive	Future	No	Yes	Yes	Yes	No
Achievement	Resultative state	Future	No	No	No	No	No
suberi-oti- slip-fall	Resultative state	Future	No	No	No	No?	No?
Base verb: *oti-* 'fall'	Resultative state	Future	No	No	No	No	No

(adapted from Toratani 2007: 57)

(6) a. nimotu-ga yuka-ni suberi-oti-te-i-ru.
Parcel-NOM floor-DAT slip-fall-L-exist-NPAST
'The parcel is on the floor (fallen) slipping
/*The parcels are falling slipping onto the floor.'

b. nimotu-ga yuka-ni oti-te-i-ru
Parcel-NOM floor-DAT fall-L-exist-NPAST
'The parcel is on the floor (fallen).'

→Compound's Aktionsart class = V2's Aktionsart class (Achievement)

- English activity verbs → [decategorization] → *-ingly*-adverbs

(7) a. flow → flowingly (e.g. "She danced flowingly across the stage…")
b. slip → slippingly (e.g. "the process of slippingly pushing up the opponent's shinai is ...")
c. whine → whiningly (e.g. "he whiningly inquires whether this is like …")
d. joke → jokingly (e.g. "What did Harry Truman jokingly call his wife and daughter?")
e. bump → bumpingly (e.g. "The train came bumpingly to a halt.")
(Attested, Google search)

(8) a. *She danced passionately.*: **passionate'** (**do'** (she, [**dance'** (she)])

b. *She danced flowinglyi.*: **flowing'** (**do'** (she, [**dance'** (she)])
(cf. Jackendoff 1972)

(9) a. *suber-* 'slip' : **do'** (z, [**slip'** (z)])
→ [prefixation: modification] → *suberi-*: **slipping'** (w), w=LS

b. *oti-* 'fall': INGR **fallen'** (x)

c. *suberi-oti-* 'slip-fall': **slipping'** (INGR **fallen'** (x))

3.1.2. Transitive-transitive[change-of-state]

(10) Activity V1

a.	osi-akeru	push-open	'open by pushing'	$[T\text{-}T]_T$
b.	haki-atumeru	sweep-gather	'gather by sweeping'	$[T\text{-}T]_T$
c.	humi-katameru	stamp-harden	'harden by stamping'	$[T\text{-}T]_T$

Causative change-of-state V1

d.	kiri-saku	cut-split	'split by cutting'	$[T\text{-}T]_T$
e.	tokasi-ireru	melt-put	'melt into'	$[T\text{-}T]_T$
f.	tigiri-toru	tear-remove	'remove by tearing'	$[T\text{-}T]_T$

Activity V1

(11)

Keekan-ga	doa-o	osi-ake-ta.
police-NOM	door-ACC	push-open-PAST

'The policeman opened the door by pushing it.'

(12) a. V1: *os-* 'push' : **do'** (x, [**push'** (x, y)])
b. V2: *ake-* 'open' :[**do'** (x, Ø)] CAUSE [BECOME **open'** (y))]
c. V1-V2: *osi-akeru*:[**do'** (x, [**push'** (x, y)])] CAUSE [BECOME **open'** (y))]

Causative change-of-state V1

(13)

Kazue-ga	nuno-o	kiri-sai-ta.
Kazue-NOM	cloth-ACC	cut-tear-PAST

'Kazue tore the cloth by cutting.'

(14) a. *kir-* 'cut' : **do'** (x, Ø) CAUSE [INGR **cut'** (y)]
→ [prefixation: atelicization] → *kiri-*: **do'** (x, [**cut'** (x, y)])

b. V2: *sak-* 'to split' :[**do'** (x, Ø)] CAUSE [BECOME **torn'** (y))]

c. V1-V2: *kiri-saku*:[**do'** (x, [**cut'** (x, y)])] CAUSE [BECOME **torn'** (y))]

- Base V2 with an unspecified activity →V1: specifies the activity (cf. (14))
- Base V2 with no unspecified activity →V1: one-place predicate (cf. (9))

3.2. Base verb(V1)-suffix(V2)

-V2: grammaticalized (e.g. *agar* = 'rise' [lexical verb]; 'hard' [V2]

(15) a. hurue-agar-u shiver-rise 'shiver hard'
b. oi-mawas-u chase-turn 'chase around'
c. nige-kir-u escape-cut 'get away successfully'

(16) *-agar* (<Ev>) (adapted from Kageyama 1993:109)

(17) a. *hurue-* 'shiver' : **do'** (x, [**shiver'** (x)])
b. *hurue-agar-* 'shiver hard' : **considerable'** (**do'** (x, [**shiver'** (x)]))

c. Samusa-ni hurue-agat-ta
cold-DAT shiver-AGAR-PAST
'(We) shivered from cold considerably.'

(18) a. *hage-* 'become bare' :BECOME **bare'** (x)
b. *hage-agar-* 'become bare considerably' :BECOME **considerable'** (**bare'** (x))

c. Yama-ga hage-agat-te-i-ru
mountain-NOM become.bare-AGAR-L-exist-NPAST
'The mountain has become considerably bare.'

- Summary
  - Two types of LS for V1-V2

a. One-place predicate type: (…)**pred$_p$'** (…**pred$_q$'** (x, (y))
b. Activity specifier type: **do'** (x, [**pred$_p$'** (x, (y))]) CAUSE […. **pred$_q$'** (y)]

4. Case marking

(20) kodomo-ga hurue-agat-ta
child-NOM shiver-rise-PAST
'The child shivered considerably.'

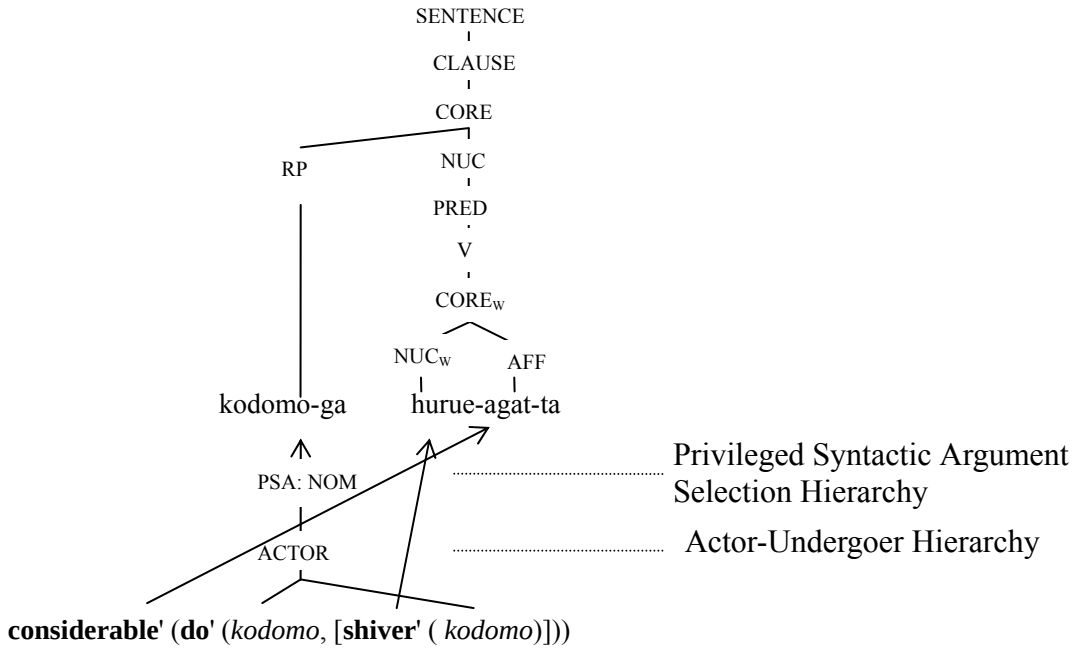


Figure 1: Linking for Sentence (20) (cf. Van Valin 2009)

(21) Taroo-ga huku-o kiri-sai-ta
Taroo-NOM clothes-ACC cut-split-PAST
'Taro tore the clothes by cutting.'

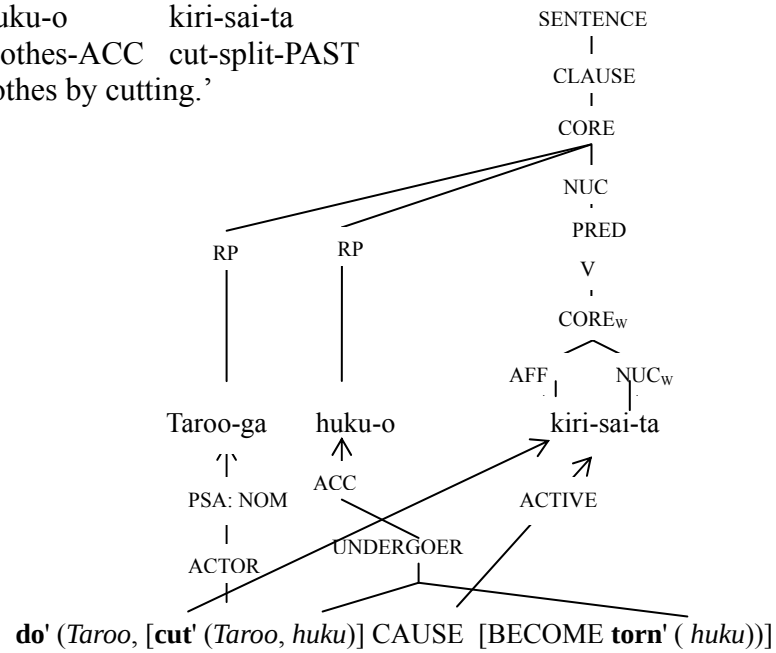


Figure 2: Linking for Sentence (21) (cf. Van Valin 2009)

5. Concluding Remarks

- Argument structure of compound verbs in Japanese can be accounted for drawing on a theory that does not posit the level of syntactic argument structure (i.e., RRG).

- Simpler account can be provided by abandoning the premise that the component verb always brings full-fledged information as a full verb into a compound verb structure.

  - No merging of two argument structures → no rules to govern merging operations
  - Straightforward case-marking (cf. Fukushima 2005)

- Remaining Issues: Predictiveness

  - Fukushima (2005:572): '[t]here seems to be no principled (phonological, morphological, syntactic, or semantic) reason' that explains why a particular V1 combined with a V2 is acceptable in one case but its synonym combined with the same V2 is unacceptable"

  - Need of detailed studies on semantics of verbs that can be combined together. A promising line of research→ Uchiyama et al (2005).

References

Fukushima, Kazuhiko. 2005. Lexical V-V compounds in Japanese: lexicon vs. syntax. Language 81.3:568-612.

Gamerschlag, Thomas. 2000. Complex predicate formation and argument structure of Japanese V-V compounds. Japanese/Korean Linguistics 10: 532-544.

Jackendoff, Ray S. 1972. Semantic interpretation in Generative Grammar. Cambridge: MIT Press.

Kageyama, Taro. 1993. Bunpoo to gokeesee [Grammar and word formation]. Tokyo: Hituzisyoboo.

Libben, Gary. 2005. Everything is psycholinguistics: material and methodological considerations in the study of compound processing. The Canadian Journal of Linguistics/La Revue canadienne de Linguistique, 50:267-283

Lyons, John. 1977. Semantics [Volume I]. Cambridge: Cambridge Univesity Press.

Matsumoto, Yo. 1996. Complex predicates in Japanese: a syntactic and semantic study of the notion 'word'. Stanford: CSLI Publications, Tokyo: Kurosio Publishers.

Morita, Yoshiyuki. 1990. Nihongogaku to nihongokyooiku [Study of the Japanese language and the Japanese pedagogy]. Tokyo: Bonzinsha.

Naumann, Ralf and Thomas Gamerschlag. 2003. Constraining the combinatorial patterns of Japanese V-V compounds: an analysis in dynamic event semantics. Journal of Semantics 20.3: 275-296.

Spencer, Andrew. 2006. Morphological universals. In Eds. Mairal, Ricardo and Juana Gil, Linguistic Universals, Cambridge: Cambridge Univesity Press.

Toratani, Kiyoko. 2007. "A semantic and pragmatic account of the -te-ar construction in Japanese." Journal of Japanese Linguistics 23:47-75.

Uchiyama, Kiyoko, Timothy Baldwin and Shun Ishizaki. 2005. Disambiguating Japanese compound verbs. Computer Speech and Language 19.4:497-512.

Van Valin, Robert D. 2009. On the analysis of head-marking languages in RRG. Paper presented at the 2009 RRG Conference, University of California.

Van Valin, Robert D. 2005. Exploring the syntax-semantics interface. Cambridge: Cambridge University Press.

Van Valin, Robert D., Jr. and Randy LaPolla. 1997. Syntax: structure, meaning and function. Cambridge: Cambridge University Press.