Motivations and Restrictions of Lexical V-V Compounding in Japanese

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1. Introduction

If we follow the assumption of modularity of word formation (cf. Kageyama 1993, Yumoto 2005) and if there exist such things as the well-formedness conditions on a semantic structure as well as a morpho-syntactic structure of a single predicate, the output of Japanese lexical V-V compounding which belongs to the lexicon should conform to such conditions. For example, lexical V-V compounds would not deviate from the ordinary event structures of verbs represented as in (1). Thus a variety of semantic functions or meanings of the V2's described in the literature as in Figure1 should be reduced to a few limited patterns of semantic merger of the two verbs which explain both the productive mechanism and the constraints of V-V compounds.

Lexicon (Japanese)

Verbs

$$V_1$$
 [LCS1] $\langle ARG1 \rangle$

Compounding \Rightarrow [V-V]_{V3} [LCS3]<ARG3>

 V_2 [LCS2] $\langle ARG2 \rangle$

The merger of the two verbs should be properly constrained to derive an appropriate semantic structure as well as a morphosyntactic feature to be recognized as a single verb.

- (1) a. [STATE X BE AT/IN/ON y] (stative)
 - b. [EVENT y BECOME [y BE AT-z]] (achievement)
 - c. [EVENT [x ACT ON-y]] (activity)
 - d. [EVENT [x ACT ON-y]] CAUSE [EVENT y BECOME [y BE AT-z]]] (accomplishment)
 - e. [EVENT x GO_{manner} [PATH FROM y TO z]] (motion)

Assumptions

- 1. Japanese V-V compounds are right-hand headed in principle.
- 2. The semantic arguments (variables) of the predicate should be fully interpreted either by syntactic realization or by lexicalization.
- 3. In the productive lexical V-V compounding the semantic relation between the two verbs is either modification (attributive) or predication (subordinate) which are the major relations observed in the complex word in general (cf. Spencer 1991, Kageyama 1993, Lieber 2009, Scalise & Bisetto 2009).

- (2) a. Modification haru-kaze = haru ni huku kaze 'spring breeze' spring at blow breeze
 - b. Predication *kitune-gari*=kitune o karu koto 'fox-hunting' fox ACC hunt Nominalizer *hi-gure*=hi ga kureru koto 'nightfall'

 day NOM fall Nominalizer

Claims

- A. Lexical V-V compounding is motivated to supplement an unspecified component of an event structure of the V2.
- ① specification of the causing event presupposed by the V2
- ② satisfaction of the internal argument of the V2 by an event
- ③ specification of the aspect (or Aktionsart)
- B. The V2 in lexical V-V compounds often undergoes semantic shift or bleaching through semantic merger with the V1 ('co-compositon'), which makes Japanese lexical V-V compounding highly productive.
- C. Lexical V-V compounding is restricted both by well-formedness conditions on the semantic structure including conditions on identification of the arguments and by case assigning property of the head.
- ① The identification of the subjects is MUST in any type of V-V compounding.
- ② The arguments of the two verbs should be identified in order to satisfy the Assumption 2 above.
- ③ The semantic conditions are attributed to the motivations of compounding mentioned above. What cannot attain these motivations or deviates from them is rejected.
- 2. Productive patterns of semantic merger in lexical V-V compounding
- 2.1 Specification of the manner/means component in the LCS ⇒Claim A①
- (3) a. *tataki-kowasu* ('hit+break'= break by hitting)

LCS :
$$_{V2}[[x \text{ ACT-ON } y] \text{ CAUSE } [y \text{ BECOME } [y \text{ BE AT-BROKEN}]]]$$
 $_{V1}[x \text{ ACT-ON }_{\text{hitting }} y]$

b. *naki-otosu* ('cry+persuade'=persuade by crying)

LCS : $_{V2}$ [[x ACT-ON y] CAUSE [y BECOME [y BE AT-PERSUADED]]] $_{V1}$ [x CRY]

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LCS: _{V2}[x \text{ GO}_{manner} \text{ UP}]
                        _{\text{V1}} [x \text{ACT}_{\text{crawling}}]
                                                                or
           LCS: v_2[[x \text{ ACT}] \text{ CAUSE} [x \text{ MOVE TO-}y]]
                        \bigcup_{V_1} [x ACT_{crawling}]
                 Cf. climb : (x GO ([PATHUPWARD)]) ([Manner CLAMBERING]))
                                                                    (Jackendoff 1985)
2.2 Satisfaction of the argument of the V2 by an eventive argument
        (A-2a) V2 keeps its original meaning
      e.g. tukai-hatasu (=use+achieve 'use up'), naki-yamu(=cry+stop 'stop crying')
                                                                 (TYPE 1)
          (A-②b) V2 undergoes semantic shift or bleaching so that it can select an
                  event represented by the V1 (it might appear to serve as an
                  auxiliary)
             e.g. sasoi-kakeru (=invite+pour 'tempt'), tukuri-ageru (=make+ raise
                   'complete'), yobi-kawasu (=call+exchange 'call to each other')
(4) a. nomi-wasureru (=drink+forget), tabe-sokonau (=eat+fail), utai-hazimeru
   (=sing+begin), aruki-tuzukeru (=walk+continue), kaki-oweru (=write+finish)
   b. kaki-morasu (=write+forget), uti-hatasu (=defeat-accomplish), sasoi-kakeru
     (=invite+pour), kiki-otosu (=hear+miss)
   c. kusuri
                      nomi-wasureru = [kusuri o nomu no]
                                                                   o wasureru
      medicine ACC drink-forget
                                      medicine ACC drink Nom. ACC forget
                                                         ( 'forget to take medicine')
(5) a. hukushuu o
                               'carry out revenge' / tukai-hatasu 'use up'
                      hatasu
      revenge ACC
                      accomplish
                                                  / use-accomplish
   b.{shakkuri/ame} ga yamu 'the {hiccups/rain} has stopped'
                                                           naki-yamu
                                                                         'stop crying'
       hiccup / rain NOM stop
                                                            cry-stop
(6) a. taki-bi ni
                    mizu o kakeru
                                            'to pour water over fire'
       fire
              on water ACC pour
   b. onnna ni saiminjutu o
                                    kakeru
                                             'to practice hypnotism on a woman'
       woman to hypnotism ACC
                                    direct
   c. onnna ni
                      sasoi
                                       kakeru
                                                     'to tempt a woman'
        woman to temptation ACC direct
   d. onnna ni sasoi-kakete sake o nomi-ni itta. 'tempt a woman to go for a drink'
        woman to tempt-direct sake ACC drink go-PAST
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c. *hai-agaru* ('climb+go up'=climb up)

2.3 Semantic shift and bleaching of the V2

Once the use of a verb in a V-V compound as the V2 gets established, it undergoes semantic shift (or conversion) and serves as an auxiliary verb which specifies Aktionsart of the V1 (TYPE 2).

However we don't have to consider such verbs to have two lexical entries, one with the original meanings and one used as the V2 in V-V compounds. Rather there is continuity between two usages. If we assume a dynamic mechanism in interpretation of a lexical item proposed by Generative Lexicon (Pustejovsky 1995), most V-V compounds where the V2's are used as TYPE 2 can be interpreted based on the original meaning of the V2.

- (7) a. (VI) kake('run')-komu, donari('roar')-komu, tobi('jump')-komu (VT) naguri('hit')-komu, moti('have')-komu, nui('sew')-komu
 - b. (VT) kari('trim')-komu, ni('stew')-komu, yomi('read')-komu

(VI) nemuri('sleep')-komu, suwari('sit')-komu, hie('get cold')-komu,

c. *komu* constitutive :
$$[([x \text{ ACT ON } y] \text{ CAUSE}) [[y] \text{BECOME } [y \text{ BE } [\text{IN-}z]]]]$$
 formal : in (e₂, y, z) agentive : move_act_{MANNER>} (e₁, x, y)

(8) a.
$$kakeru$$
 'run' constitutive : [$x \text{ move}_{< running manner}>$] telic : at (e₂, y , z)

b. kake-komu 'run into'

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constitutive : v_2 [ [\underline{x_i \text{ ACT ON } y_i}] CAUSE [y BECOME [y BE [IN-z]]] v_1[x_i \text{ ACT}_{running}] formal : in (e_2, y_i, z) agentive : move_act_v_1 (v_2) (v_3) v_4 (v_4) : v_4 (v_4) v_5 (v_4) : v_4 (v_4) v_5 (v_4) : v_4 (v_4) v_4 (v_4)
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(9) a.
$$nageru$$
 'throw' $\left[\text{constitutive} : [[x \text{ ACT ON } y] \text{ CAUSE } [y \text{ MOVE}]]\right]$ telic : at (e, y, z)

b. *nage-komu* 'throw into'

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constitutive : _{V2}[[x_j \text{ACT ON } y_j] \text{CAUSE } [[y_j \text{BECOME } [y_j \text{BE } [\text{IN-}z]]]]
v_1[[x_i \text{ACT ON } y_j] \text{ CAUSE } [y_j \text{MOVE}]]
formal : in (e<sub>2</sub>, y<sub>j</sub>, z)
agentive : move_act (e<sub>1</sub>, x<sub>i</sub>, y<sub>j</sub>)
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(10) a.
$$karu$$
 'trim' $\left[\text{constitutive} : [x \text{ ACT}_{\text{cutting}} \text{ ON } y] \right]$ telic: at $(e_2, y, z: \underline{\text{SHORT}} [+\text{gradable}])$

b. kari-komu 'prune'

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constitutive : v_2[[x_i \text{ ACT ON } y_j] \text{ CAUSE }_{\text{Ident}} [[y_j] \text{BECOME } [y_j \text{ BE } [\text{IN-}z]]]]
v_1[x_i \text{ ACT}_{\text{cutting}} \text{ ON } y_j]
formal : in (e<sub>2</sub>, y_i, z: SHORT)
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(11) a. nemuru 'sleep' \left(\begin{array}{c} \text{constitutive} : [x \text{ ACT}] \\ \text{formal} : \text{at (e, } x, \text{ asleep)} \end{array}\right)
b. nemuri-komu 'fall asleep' \left(\begin{array}{c} \text{constitutive} : \text{v}_2 \ [[y_j] \text{BECOME}_{\text{Ident}} \ [y \text{ BE [IN-}]]} \\ \text{formal} : \text{in (e}_2, y_j, \ \hline{z:ASLEEP}) \\ \text{agentive} : [x \text{ ACT}] \end{array}\right)
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When the V1 does not represent a motion in spatial field, the agentive role of *komu* is abstracted and the formal role is converted into another semantic field to match with the V1 (in the cases above Identificational). As a result the telic role or the formal role of the V1 can be composed into the formal role of the compound.

- 3. Unproductive but interpretable combination
 - (A-①) Specification of the cause or the presupposed event in the qualia structure of the V2 (Agentive role)
 - Unproductive because the event represented by the V1 is not inserted in the LCS (or constitutive role); agentive role (and telic role) does not constitute a lexical meaning which is relevant to truth conditions. (cf. Hidaka 2012)
- (12) a. obore-sinu 'get drawned'

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\left(\begin{array}{c}
\text{constitutive} : _{V2}[y \text{ BECOME } [y \text{ BE AT-DEAD}]] \\
\text{agentive} : _{V1}[y \text{ BECOME } [y \text{ BE AT-DROWNED}]]
\end{array}\right)
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b. nomi-tubureru

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constitutive: <sub>V2</sub> [y BECOME [y BE AT-INSENSIBLE]] agentive: <sub>V1</sub> [y DRINK ALCOHOL]
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- c. *ne-sizumaru* (=sleep + become quite 'fall asleep'), *nige-useru* (=fly+disappear 'run away'), *nuke-otiru* (=fall out+drop), *huri-tumoru* (=snow+pile up)
- 4. How the combination is restricted?
- 4.1 Restrictions attributed to proper argument realization and linking
- The identification of the subjects is a MUST in any type of V-V compounding including syntactic compounds with the proviso that the event represented by the V1 can be the subject of the V2.
- (13) a. Taro ga uma ni nori-tukare-ta.

NOM horse on ride-tired-PAST.

'Taro rode the horse (and as a result he got) tired.'

- b. *Inu ga doroboo o hoe-nige-ta.
 dog NOM robber ACC bark-run away-PAST
 - 'The dog barked the robber away.'
- c. Baoyu qi-lei-le ma ride-tired-asp horse
 - 'Baoyu rode the horse (and as a result he got) tired.'
 - 'Baoyu rode the horse (and as a result the horse got) tired.' (Li 1990:187)

BUT there are a few exceptions...

- (14) a, Taro ga Ken kara kuruma o yuzuri-uke-ta.
 - NOM fromcar ACC hand over-receive-PAST

'Taro received a car from Ken who yielded it to him.'

- b. Yakata wa yatto ne-sizumat-ta.
 - manor house TOP at last sleep-become calm-PAST
 - 'At last people in the manor house fell fast asleep'
- (15) a. VT+ VI: uti-agaru, turi-sagaru, tuki-sasaru, hari-tuku, yaki-agaru
 - b. VT+VT: uti-ageru, turi-sageru, tuki-sasu, hari-tukeru, yaki-ageru
- (16) a. VI+VT: mai-ageru, tobi-tirasu, korogari-otosu
 - b. VI+VI: mai-agaru, tobi-tiru, korogari-otiru
- All the arguments should be realized syntactically or lexically satisfied
- (17) a. Shorui o ie ni moti-kaeru.

document ACC home to have-go back

- V1 motu : [x BE WITH y]
- V2 kaeru : [x GO BACK TO z]

moti-kaeru : [x GO_{manner} BACK TO z]

[x BE WITH y]

- b. Ken wa sensei o ii-makasi-ta.
 - TOP teacher ACC say-defeat-PAST

'Ken made the teacher lose an argument'

V1 iu : [x SAY y to z]

V2 makasu : [[x ACT ON y] CAUSE [y BECOME DEFEATED]]

ii-makasu : [[x SAY OPINION to z] CAUSE [z BECOME DEFEATED]]



c. nomi-tubureru(=drink ALCOHOL-collapse 'drink oneself into a stupor'),

kui-tubusu(=eat SOMETHING-destroy 'waste away (a fortune)'),

ii-nogareru (=say SOMETHING-escape 'dodge the issue')

Not all the arguments of the two verbs should be coindexed

- 4.2 Restrictions attributed to the motivations of compounding

A combination that cannot satisfy these motivations or deviates from them is rejected.

- Means represented by the V1 should construct a proper chain of causation
- (19) a. *Gake ga ie o kuzure-kowasi-ta. cliff NOM house ACC collapse-destroy-PAST.
 - b. *Inu ga Ken o hoe-okosi-ta.

 dog NOM ACC bark-awake-PAST ⇒ Transitivity Harmony Principle

 (Kageyama 1993)
- Means/Cause represented by the V1 should match with what is predictable from the agentive role in the qualia structure of the V2; the event represented by the V2 should match with what is predictable from the telic role of the V1.
- (20) a. Ken wa kookoku o mi-te sono mise ni it-ta. / *mi-itta

 TOP ad. ACC see that shop to go-PAST / see-go

 'Ken saw that ad and went to that shop.' (Matsumoto 1998:56)
 - b. Karasu ga kurumi o otosi-te wat-ta. / *otosi-wat-ta.Crow NOM walnut ACC drop crack-PAST'A crow cracked a walnut by dropping it.'
- 4.3 Restriction attributed to the case feature
- The case feature ([\pm acc]) is inherited from the head; if the V2 has [-acc] , the compound cannot assign ACC.
- (21) a. ?Ken wa beer o nomi-tubure-ta. (transitive+unaccusative) TOP beer ACC drink-collaspe-PAST

'Ken drank beer and drank himself into a stupor.'

- b. *Sakura ga hana o tirasi-nokot-teiru. (transitive+unaccusative) cherry NOM flower ACC scatter-remain-ASP
 - 'The cherry blossoms have been scattered but some still remain in the tree.'
- c. *Yamada-san ga keikaku o tukuri-agat-ta. (transitive+unaccusative)
 NOM plan ACC make-finish-PAST
 - 'Mr. Yamada completed the plan.'

5. Concluding remarks

Lexical V-Vcompounding in Japanese is highly productive.

← Semantic shift and semantic bleaching of the V2

Cf. Tsukamoto (2012:228-242)

Only a small number of V2's have lost their original meanings and undergone grammaticalization to represent aspectual meanings.

On the other hand, it is restricted in the way of argument identification between the argument structures of the two verbs.

Cf. Chinese V-V compounds (Li 1990)

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Figure 1 (Himeno 1999)

王な後項動詞の意味 先行研究の比較

	山本 (1983)	寺村(1984)	城田(1998)	影山 (93)	国研 (87)
合う	様態 :複数主体	空間的相:目標への動き	相互態	相互行為	273
上がる	アスペクト:終了		段階相:終わり完成		71
	方向 :上方	空間的相:上への動き			
上げる	│ 様態 : 程度 アスペクト:終了		CAPATA . SA L IN ALA		
T1) .2	方向:上方	空間的相:上への動き	段階相:終わり完成		129
	7317	密度、強度の相:完成			
飽きる			状態相:倦厭	習慣	9
あぐねる			状態相:渋滞	未遂	5
焦る	ᄷᆖᇷᄼᆉᅜ		状態相:躁急		1
誤る 改める	錯誤:失敗		状態相:不首尾	未遂	1
歩く	1		状態相:再行・修正 状態相:旺盛・強化		5
急ぐ			状態相:躁急		33 5
入る	方向:内部		A SOUTH A SALVEY		58
得る			可能態	可能	432
終える		時間的相:終了	段階相:終わり 終結	完了	18
終わる 遅れる	アスペクト:終了	時間的相:終了	段階相:終わり 終結	完了	62
生んむ			状態相:不首尾 状態相:渋滞	未遂	12
答ちる		空間的相:下への動き	14、然性,疾病		3 27
答とす	錯誤:残存	22,424,441	状態相:不首尾		46
下ろす	方向:下方	空間的相:下への動き			23
返す	111.44 - 40 - 44	空間的相:目標への動き	状態相:再行・修正		73
反る かかる	様態:程度	n+ 90 44 in . wa ! /	状態相:旺盛・強化		47
3,13,12	アスペクト:始発	時間的相:開始 空間的相:目標への動き	段階相:始まり		90
かける	アスペクト:始発	時間的相:開始	不完全起動 段階相:	始動	226
, .	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	空間的相:目標への動き	始まり 不完全起動		236
かねる	錯誤:躊躇		可能態	未遂	110
	樣態:複数主体				14
與じる	77.041.04	otorio 36 de a la caracta de la	状態相:旺盛・強化		2
刃る くだす	アスペクト:完遂	密度、強度の相:程度、完成	段階相:終わり 完成	完了	207
たびれる		空間的相:下への動き	状態相:充足・倦厭		8
加える			状態相:添加		4 4
こくる			状態相:旺盛・強化		4
₹¢.	方向:内部	空間的相:内への方向			231
7.4.7	様態:程度	密度、強度の相:程度、密度	状態相:旺盛・強化		-
込める Fがる	1	空間的相:内への方向			24
ドがる ドげる	方向:下方	空間的相:下への動き 空間的相:下への動き			12
きめる	71.41.17	エドルカロ・レーング	状態相:旺盛・強化		15 11
なる			状態相:渋滞		5
ぎる	様態:程度		過剰相	過剰行為	173
居える	lyte . eem		状態相:旺盛・強化		5
きてる ほえる	様態:態度		Jhesin . St.		38
にんる はなう			状態相:添加	+ >#	8
じる	様態:失敗		状態相:不首尾 状態相:不首尾	未遂未遂	21
びれる			状態相:不首尾	未遂	7 5
そめる			段階相:始まり 開始	-,-,-	16

足す			状態相:添加		8
出す	アスペクト: 始発		段階相:始まり 開始	始動	432
	方向:外部	空間的相:外への動き			
立つ	様態:程度		状態相:旺盛・強化		57
立てる			状態相:旺盛・強化		72
足りる	1		状態相:充足		13
違える	錯誤:失敗		状態相:不首尾		15
散らす	様態:態度		状態相:旺盛・強化		29
疲れる	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		状態相: 倦厭		16
尽くす		密度、強度の相:程度、強さ	段階相:終わり 完成	完了	76
3			段階相:始まり 開始	'-	75
- '-		空間的相:目標への動き			
つける	アスペクト:習慣		状態相:習慣	習慣	143
-1, -	77. 71.68	空間的相:目標への動き	状態相:旺盛・強化		• • •
続く	アスペクト:継続		段階相:継続		10
続ける	アスペクト:継続		段階相:継続継続	継続	169
つぶす	様態:程度	A THOROUGH . MEANS	TATE THE OTHER TRANSPORT	ATT-4NP	21
詰める	1825、往及	密度、強度の相:程度、強さ	比能相・旺成・硫化		28
	方向:外部	位反、強反が行・往及、強さ	Water and		48
出る 通す	アスペクト:完遂	 密度、強度の相:程度、完成	段階却・終われ 全成	完了	49
	/ ヘヘッド・元烃	密度、強度の相:強さ	校階和・ベヤソー元成	1 251	12
通る	母争・校工	省及、独及が作・独で	 状態相:再行・修正 -	再試行	72
直す	錯誤:修正			11764	
直る	錯誤:修正			1	6
流す	様態:態度	*	10:45 Ft. • 20 Ft.	1 1	10
慣らわす	·	l	状態相:習慣	100 LER	2
慣れる			状態相:習慣	習慣	29
悩む			状態相:渋滞		6
抜く	アスペクト:完遂	密度、強度の相:完成	段階相:終わり 完成	完了	50
残す	錯誤:残存		状態相:不首尾	未遂	26
残る	錯誤:残存				16
はぐれる			状態相:不首尾		4
始まる			段階相:始まり 開始	l I	0
始める	アスペクト:始発	時間的相:開始	段階相:始まり 開始	始動	399
果たす			状態相:終わり 完成		3
果てる	様態:程度		状態相:旺盛・強化		43
古す	様態:程度		1 1 7 17		7
まくる	様態:程度		状態相:旺盛・強化	継続	15
間違う	錯誤:失敗		状態相:不首尾		3
間違える	錯誤:失敗		状態相:不首尾		1
回す	方向:周囲	空間的相:周囲への方向	状態相:旺盛・強化		43
回る	方向:周囲	空間的相:周囲への方向	状態相:旺盛・強化		45
漏らす	錯誤:残存		状態相:不首尾		4
やむ	アスペクト:終了	時間的相:終了	段階相:終わり 停止		9
やめる			段階相:終わり 停止		2
忘れる			状態相:不首尾	未遂	12
渡す		空間的相:周囲への方向			14
渡る		空間的相:周囲への方向			39
12.5		五百四角 - 周四 - 77月			
		1		1	