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Lexicon-pragmatics interaction in argument structure alternation*

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1. Introduction

Pragmatics has been treated as a post-grammatical filter by formally oriented researchers of language. Mostly, pragmatic is appealed to for tweaking word meanings and choosing contextually appropriate constructions. This paper argues against such a view drawing on argument structure (ARG-ST) formation and alternation of lexical V-V compounds in Japanese.

Horn (2017) illustrates that for scalar values associated with adjectives like *warm*, a conversational implicature sets the upper-bound while the lower-bound is literally stated. Thus, *warm* means 'at least warm' but implicates 'warm but not hot'. Also, with implicatures the meaning of the word *animal* can be narrowed down to indicate creatures excluding humans, birds, and fish. According to Green (2004), pragmatics affects the choice between truth conditionally equivalent sentences: with passives, an affected individual usually becomes the subject and the agentive *by*-phrase is left out since the referent is simply unknown/irrelevant in *My bike was taken between 3:00 and 5:30 on Monday*.

Goldberg (2004) exemplifies a more formally inclined use of pragmatics where a ditransitive ARG-ST of the verb *send* and that of its dative counterpart are different—ditransitives require an animate 'goal' but datives do not.

(1) a. Datives:
send a package to them and *send a package to that place*
b. Ditransitives:
send them a package vs. **send that place a package*

But even in (1), pragmatics can still be viewed as a mere filter just to screen out unwanted output of a grammatical system. Stronger evidence is desired involving a more intricate grammatical device the workings of which cannot be explicated without pragmatics. In this paper the formation of ARG-STs of lexical V-V compounds in Japanese (Kageyama 1988, 1993, 2013, Li 1993, Matsumoto 1996, 1998, Nishiyama 1998, 2002, Himeno 1999, Toratani 2002, Fukushima 2005, 2021, 2024, in press, Yumoto 2005, Chen and Matsumoto 2018, inter alia) exemplified in (2) is tapped on to demonstrate how essential pragmatic factors are for complex word-formation (a formal grammatical system). Specifically, the speaker's referential intention, focus designation, and semantic/pragmatic anomaly avoidance determine the outcome of ARGUMENT SYNTHESIS

*The comments from the participants of *The International Argument Alternation Workshop* are appreciated, especially, those by Hideki Kishimoto and Osamu Sawada. Saeko Urushibara's (p.c.) question years ago regarding (2c) vs. (2c′) was the starting point of tackling the issue of lexicon-pragmatics interface (ARG-ST alternation inter alia). All remaining shortcomings that might be found herein are blamed on the current author alone.

(AS). AS is simple in (2a-b, c′) but not in (2c). If the subject of *ne* and that of *sizumar* are matched blindly as in (2c′), the subsequent semantic interpretation will be disrupted in (2c).

(2) a. *Taroo-ga hasiri-sat-ta.* (morphophonemics [sar]→[sat])
Taroo-NOM run-leave-PAST
'Taroo left running.'
b. *Hanako-ga sara-o tataki-wat-ta.* ([war]→[wat])
Hanako-NOM plate-ACC hit-break-PAST
'Hanako broke a plate by hitting (it).'
c. *Ie-ga ne-sizumat-ta*. ([sizumar]→[sizumat])
house-NOM sleep-become.quiet-PAST
'The house became quiet due to (the occupants') sleeping.'
c′. *Kazoku-ga ne-sizumat-ta*.
family-NOM sleep-become.quiet-PAST
'The family became quiet due to (their) sleeping.'
[N.B.: V_1-final [i] or [e] is continuative morphology. Only right-headed compounds are included in this paper.]

Section 2 begins with the current assumptions followed by demonstrations of complex AS which necessitates the amalgamation of pragmatic (use-based) factors. Given the complex behavior of lexical V-V compounds, a brief consideration regarding a suitable grammatical model will be carried out in section 3 followed by concluding remarks in section 4.

2. V-V compounds and complex ARGUMENT SYNTHESIS

This section demonstrates the fact that AS calls for the involvement of pragmatic factors. First, the current assumptions are laid out and then simple and complex cases of AS are demonstrated.

2.1. Assumptions

Following Fukushima (2005, 2024), the current assumptions (abridged) are listed in (3).

(3) V-V compund ARGUMENT SYNTHESIS
- AS is head-driven (i.e. strong but not complete head V_2 domination), e.g. no dismissal of the head's arguments and retention of the head's case-marking patterns
- Matching of arguments proceeds in the order of ARG-STs based on THEMATIC PROTO-ROLE entailments.
- Dismissal of non-head arguments is possible only before a match is found. A dismissed argument is existentially quantified.
- Two classes of THEMATIC PROTO-ROLEs as clusters (Dowty 1991) of lexica semantic entailments:
  PROTO-AGENT (PA):
  - ✧ volitional involvement in the event or state
  - ✧ sentience
  - ✧ causing an event or change of state in another participant
  - ✧ movement (relative to the position of another participant)

✧ (exist independently of the event named by the verb)

PROTO-PATIENT (PP):

✧ undergoes change of state
✧ incremental theme (i.e. event-object homomorphism)
✧ causally affected by another participant
✧ stationary relative to the movement of another participant
✧ (does not exist independent of the event, or not at all)

- ARGUMENT SELECTION PRINCIPLE (ASP):
  Subject (SUBJ): the argument with the greatest number of PA entailments
  Direct object (D-OBJ): the argument having the greatest number of PP entailments
- ARGUMENT SELECTION INDETERMINACY (ASI): If two arguments of a relation have (approximately) equal numbers of entailed PA (or PP) properties then either or both may be lexicalized as the subject (or object), e.g. *buy* and *sell* are mirror-image words—their 'agent' and 'goal' arguments share the identical proto-role entailments.
- ROLE NONDISCRETENESS (RND): Proto-roles do not classify arguments exhaustively (some arguments have neither role) or uniquely (some arguments may share the same role) or discretely (some arguments could qualify partially but equally for both proto-roles).

2.2. Simple cases of AS

By way of illustration, let us first examine how straightforward AS is carried out for (2b) with two transitive verbs *tatak* and *war*.

(4) a. *Hanako-ga sara-o tataki-wat-ta*. (= (2b))
Hanako-NOM plate-ACC hit-break-PAST
'Hanako broke a plate by hitting (it)'

b. V_1 *tatak* 'hit': ARG-ST<NP_{ga}^{i}, NP_{o}^{j}> with NP_{ga}^{i} = PA (volition; sentience; movement; causer) and NP_{o}^{j} = PP (causee, stationary)

c. V_2 *war* 'break': ARG-ST<NP_{ga}^{k}, NP_{o}^{l}> with NP_{ga}^{k} = PA (volition; sentience; movement; causer) and NP_{o}^{l} = PP (change of state; causee)

d. V_1-V_2 *tataki-war* 'break by hitting': ARG-ST<$NP_{ga}^{i\bullet k}$, $NP_{o}^{j\bullet l}$> with $NP_{ga}^{i} \approx NP_{ga}^{k}$ and $NP_{o}^{j} \approx NP_{o}^{l}$

[N.B.: Superscripting individuates arguments. A dot '•' between superscripts indicates 'identification' of arguments. The symbol '≈' (or '¬≈', a combination of negation and equivalence symbols) signifies 'equivalence' but not necessarily identity (or 'non-equivalence') in terms of proto-roles. Compositional translation steps are not included.]

As seen in (4d), the subject and object arguments of V_1 and V_2 are matched, respectively, yielding $\lambda x \lambda y.$(**VIA′**(**hit′**(*x*)(*y*))(**break′**(*x*)(*y*))) to render (4a) as **VIA′**(**hit′**(plate)(hanako))(**break′**(plate)(hanako)). Here **VIA′** is a function making an adverbial modifier out of a proposition[1] in that the proposition with V_1 *tatak* (i.e. **hit′**(plate)(hanako)) is a modifier for the proposition with V_2 *war* (i.e. **break′**(plate)(hanako)).

[1] The output of **VIA′** is ultimately determined by pragmatic considerations. There is nothing intrinsic about the verb meanings per se that brings about the difference, for

2.3. Complex AS 1: reference choice

Let us take up (2c-c′) above (repeated in (5)) where AS needs to partially depend on pragmatics to make available two distinct semantic interpretations.

Though V_1 *ne* is employed in (5a) (= (2c)), the house cannot be a sleeper so it is unqualified as the subject of V_1. However, the family can be construed as such in (5b) (= (2c′)). The subject of V_1, then, should be reflected in the compound's ARG-ST in one case but not in the other. Similarly in (6a-b).[2]

(5) a. *Ie-ga ne-sizumat-ta*.'The house became quiet due to (the occupants') sleeping.'
b. *Kazoku-ga ne-sizumat-ta*. 'The family became quiet due to their sleeping.'

(6) a. *Hoho-ga naki-nure-ta*.
cheek-NOM cry-become.wet-PAST
'(Someone's) cheek(s) became wet due to weeping'
b. *Taroo-ga naki-nure-ta*.
Taroo-NOM cry-become.wet-PAST
'Taroo became wet due to his weeping'

Picking (5), we entertain the following two possibilities for AS: (i) the one with lexical information alone (case 1) and (ii) another (case 2) with pragmatic information, namely, a speaker-oriented reference choice. We begin with (7a) where *ie* is the subject—a default case with lexical (entailment) information alone.

(7) Case 1 (with lexical information exclusively):
a. V_1 *ne* 'sleep': ARG-ST<NP_{ga}^{i}> with NP_{ga}^{i} = PA (sentience)
b. V_2 *sizumar* 'become.quiet': ARG-ST<NP_{ga}^{j}> with NP_{ga}^{j} = PP (change of state)
c. V_1-V_2 *ne-sizumar*: ARG-ST<NP_{ga}^{j}> with NP_{ga}^{i} $\neg\approx$ NP_{ga}^{j} and NP_{ga}^{i} (a non-head argument) is dismissed.

As (7c) shows, the arguments of V_1 and V_2 are not equivalent, thus making a match impossible. Since AS is head-driven and no match is found so far, argument dismissal is possible for V_1. NP_{ga}^{i} is dismissed but existentially quantified to yield: $\lambda x \exists y.$(**VIA′**(**sleep′**(y))(**become.quiet′**(x))) and $\exists y.$**VIA′**(**sleep′**(y))(**become.quiet′**(house)) for (5a).[3]

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example, between the manner and cause readings of *koroge-oti* 'fall rolling' or 'fall due to rolling'.

[2] In (6a), the inalienable posser of the cheek(s) will also be wet as in (6b). However, this is due to transitivity of inalienability (i.e. secondary) and not directly relevant here.

[3] As far as AS goes, this is all we need here. However, a precise semantic interpretation for (5a) necessitates knowing more about the referent of the dismissed subject of V_1. As the subject, *ie* 'house (a hyponym)', ?*tatemono* 'building (a hypernym)' and #*Akiya* 'vacant.house' show increasing degradation.

Also, some may consider that (5a) involves 'metonomy' where *ie* can possibly indicate *kazoku* 'family member'. This is unsatisfactory since, outside of V-V compounds, the alleged metonomy is unavailable (e.g. #*Ie-ga zen-in sin-da*. '(Int.) The family members all died.').

Another possibility reflecting a speaker-referential choice is seen in (5b) above and is analyzed as follows:

(8) Case 2 (with a speaker intended reference to a family):
  a. V_1 *ne* 'sleep': ARG-ST<NP_{ga}^{i}> with NP_{ga}^{i} = PA (sentience)
  b. V_2 *sizumar* 'become.quiet': ARG-ST<NP_{ga}^{j}> with NP_{ga}^{j} = PA or PP (change of state plus **sentience** inherited from the speaker-intended subject referent; for such inheritance, see section 4.)
  c. V_1-V_2 *ne-sizumar*: ARG-ST<$NP_{ga}^{i•j}$> with $NP_{ga}^{i} \approx NP_{ga}^{j}$

Unlike case 1 above, a PA entailment, sentience, is evoked for NP_{ga}^{j} of V_2 due to the speaker picking the family as the subject referent. V_2 is pragmatically *compatible* but does not semantically entail sentience. This is an instance of RND in (3) above. The compound and the sentence are translated as: λ*x*.(**VIA′**(**sleep′**(*x*))(**become.quiet′**(*x*))) and **VIA′**(**sleep′**(family))(**become.quiet′**(family)). (6a, b) are similar.

What is witnessed above is how two different motivations ((5a)/(7) vs. (5b)/(8)) bring about distinct ARG-STs of superficially identical compounds.

2.4. Complex AS 2: discourse prominence and differential object marking

A speaker-intended allocation of discourse prominence affects AS as well. Verbs like *ur* and *nom* in (9a) take an NP_o arguments, just as *aruk* and *mawar* do in (9b).

(9) a. *Ziroo-ga sake-o ut-ta/non-da*. ([ur]→[ut], [nom]→[non])
  Ziroo-NOM sake-ACC sell-PAST/drink-PAST
  'Ziroo sold/drank sake.'
  b. *Saburoo-ga mati-o arui-ta/mawat-ta*. ([aruk]→[arui], [mawar]→[mawat])
  Saburoo-NOM city-ACC walk-PAST/go.around-PAST
  'Saburoo walked through/went around the city.'

When, for example, *ur* and *mawar* are combined as in (10a, b), either NP_o (but not both) can surface with accusative case-marking. In (10a) *mati* appears with *-dake* 'only' to avert the DOUBLE ACCUSATIVE CONSTRAINT (DAC) that prohibits more than one accusative direct object in a single clause as in (10c) (Harada 1973). *Sake* in (10b) is rendered as *sake-dake* 'only sake' to satisfy the DAC as well. The same holds for *nomi-aruk* in (10d).[4]

(10) a. *Ziroo-ga mati-dake sake-o uri-mawat-ta*.
  Ziroo-NOM town-only sake-ACC sell-go.around-PAST
  'Ziroo went around only in the town selling sake.'
  b. *Ziroo-ga mati-o sake-dake uri-mawat-ta*.
  Ziroo-NOM town-ACC sake-only sell-go.around-PAST
  'Ziroo went around the town selling only sake.'
  c. **Ziroo-ga mati-o sake-o uri-mawat-ta*.
  Ziroo-NOM town-ACC sake-ACC sell-go.around-PAST

[4] $NP_{ga/o}$ + *-dake* is rendered as NP_{dake} due to the incompatibility between *-ga*/*-o* and *-dake*: *$NP_{ga\text{-}dake}$ or *$NP_{o\text{-}dake}$. It is noted that though NP_{dake} + *-ga*/*-o* is possible, this does not help to avoid the DAC.

‘(Int.) Ziroo went around the town selling only sake.’

d. *Saburoo-ga* {*mati-o sake-dake* / *mati-dake sake-o*} *nomi-arui-ta.*
Saburoo-NOM {town-ACC sake-only / town-only sake-ACC} drink-walk-PAST
‘Saburoo walked around the town drinking only sake’
‘Saburoo walked around only the town drinking sake’

How would such AS variability be possible? Again, two possibilities. In (10a), though both NP_o^j and NP_o^l are semantically PPs and should be matched, sake is not walkable or the town is not sellable *semantically*/*pragmatically*, resulting in separate inheritance (11c). In case 1 (11), the speaker designates *sake* as a non-prominent direct object with the accusative case-marking *-o*. *Mati* shows up with *-dake* not only to obey the DAC but also to indicate a focal (i.e. prominent) element in the discourse.

This choice is very likely to be driven by ‘prominence’ (attributed here to focus or exceptionality). Discourse prominence is responsible (among other factors like animacy often observed in Romance languages) for differential object marking (Kabatek et al. 2021).

(11) Case 1 (with *mati* being a prominent direct object):
a. V_1 *ur* ‘sell’: ARG-ST<NP_{ga}^i, NP_o^j> with NP_{ga}^i = PA (volition; sentience; movement; causer) and NP_o^j = PP (change of state, causee)
b. V_2 *mawar* ‘go.around’: ARG-ST<NP_{ga}^k, NP_o^l> with NP_{ga}^k = PA (volition; sentience; movement) and NP_o^l = PP (incremental theme—the town is traversed gradually; stationary)
c. V_1-V_2 *uri-mawar* ‘go.around by selling’: ARG-ST<$NP_{ga}^{i•k}$, NP_{dake}^l, NP_o^j> with $NP_{ga}^i \approx NP_{ga}^k$ but $NP_o^j \neg\approx NP_o^l$—two PPs but *no* match due to semantic/pragmatic incongruity

Being a PA the subjects of V_1 and V_2 are matched and the direct objects NP_o^j and NP_o^l (as NP_{dake}^l) are inherited separately from V_1 and V_2. (No dismissal of arguments once a match is found.) Though being PPs NP_o^j and NP_o^l compete and are potentially eligible for being NP_o, the speaker designates *mati* as discourse-prominent with *-dake*. *Sake* meanwhile ends up being accusative, satisfying the DAC. The compound and sentence translations are: $\lambda x\lambda y\lambda z.$(**VIA′**(**sell′**($x$)($z$))(**go.around′**($y$)($z$))) and **VIA′**(**sell′**(sake)(ziroo))(**go.around′**(city-only)(ziroo)) for (10a).

In case 2 (12), designating *mati* as a non-prominent direct object, the speaker chooses to construe *sake* as discourse prominent.

(12) Case 2 (with *sake* as a prominent direct objects):
V_1-V_2 *uri-mawar* ‘go.around by selling’: ARG-ST<$NP_{ga}^{i•k}$, NP_o^l, NP_{dake}^j > with $NP_{ga}^i \approx NP_{ga}^k$ but $NP_o^j \neg\approx NP_o^l$—two PPs but *no* match again due to semantic/pragmatic incongruity

The compound and translations are slightly different from (10a)’s and the sentence (10b) is translated as: **VIA′**(**sell′**(sake-only)(ziroo))(**go.around′**(city)(ziroo)).

Here again, we witness how formal and pragmatic motivations conspire and compete to balance out distinct demands arising from the lexical semantics of a compound verb (two potential direct object NPs), the syntactic condition (the DAC), and discourse-prominence designation.

Before moving on, let us examine a side-issue concerning the addition of the dative(*to*)-marked indirect object of *ur*: ARG-ST<NP_{ga}, NP_o, (NP_{ni})> as in (13). The dative argument can optionally be left out due to its irrelevance (cf. the absence of *by*-phrase in English passives), or even when the sentence is uttered out of the blue. However, the direct object argument cannot remain unexpressed (unless the sentence follows a preceding utterance where NP_o is clearly a 'theme' vis-à-vis a 'rheme'). As an isolated utterance, however, (13) without NP_o strikes us as an incomplete proposition at best.

(13) *Taroo-ga* **(hon-o)* (*Hanako-ni*) *ut-ta*.
Taroo-NOM book-ACC Hanako-to sell- PAST
'Taroo sold a book to Hanako.'

The ASP in (3) demands a ('strong') argument with the largest number of PP entailments to be realized as a direct object. With NP_o this is satisfied since *hon* being a PP (affectee, change of state) but will not be without it. (*Hanako* is a PA with volition and sentience; see below.)

Returning to (10), we note that entailment strength affects V-V compound formation as well. The V-V compound's ARG-ST<NP_{ga}, $NP_o{}^{ur}$, $NP_o{}^{aruk}$, (NP_{ni})> will give rise to an ill-formed sentence as noted above. Regardless of the inclusion of NP_{ni}, according to the ASP, dropping $NP_o{}^{ur}$ cannot be an option in (14) due to the fact that *sake* (affectee, change of state) commands more PP entailments than *mati* (incremental theme), i.e. the former is a stronger candidate for a direct object. (An example like (14) is noted by Hideki Kishimoto (p.c.).)

(14) **Ziroo-ga mati-o* (*kyaku-ni*) *uri-mawat-ta*.
Ziroo-NOM town-ACC customer-to sell-go.around-PAST
'(Int.) Ziroo went around the town selling (something) to the customers.'

2.5. Complex AS 3: semantic/pragmatic anomaly avoidance

Yet another complication in AS arises in examples like (15) where straightforward matching based on the order of ARG-STs ends up being anomalous. In (15a), for example, V_2 *uke* is fine with the alignment of NP_{ga}, NP_o, and NP_{kara}, that are the subject, direct object, and 'source' argument, respectively. However, the arguments of V_1 *yuzur*, if aligned in its standard ARG-ST order, would give rise to a semantic/pragmatic anomaly. Matching between the direct object arguments aside (a non-issue), such a step would render the yielder to be identified with the yieldee (or the 'goal' with the 'source'). So Hanako, for one thing, would incoherently end up being the yielder and yieldee simultaneously and anomalously! Nevertheless, since the compound is legitimate, actual, and semantically coherent, what would make the seemingly impossible outcome possible then? A similar observation can be repeated for (15b).

(15) a. *Taroo-ga hon-o Hanako-kara yuzuri-uke-ta*.
Taroo-NOM book-ACC Hanako-from yield-receive- PAST
'Taroo received a book from Hanako who yielded (it to him).'
b. *Ziroo-ga sirase-o Saburoo-kara tutae-kii-ta*.
Ziroo-NOM news-ACC Saburoo-from transmit-hear- PAST
'Ziroo heard the news from Saburoo who transmitted (it to him).'

The key concept here is semantic/pragmatic anomaly avoidance combined with simultaneous accommodation of expressiveness where the speaker tweaks argument-matching to circumvent the anomaly described here. Specifically, the two ARG-STs are matched in a 'mirror image' of each other. Farfetched? Not really. According to Dowty (1991), verbs like *sell*/*buy* (displaying ASI in (3)) express basically the same relation with different 'surface' argument configurations. Their 'agent' and 'goal' arguments command the same kind/number of proto-role entailments, namely, volition and sentience.

This holds for *yuzur* (V_1) and *uke* (V_2) in (15a) whose respective 'surface' argument realizations reflect different perspectives: it is the yielder's perspective for the former and the receiver's for the latter. In either case, the yielder or yieldee of *yuzur* or the 'source' or 'goal' argument of *uke* has to have a will (volition) and awareness (sentience) to perform the action.

(16) Mirror image argument synthesis:
   a. V_1 *yuzur* 'yield': ARG-ST<$NP_{ga}^{\ i}$, $NP_{o}^{\ j}$, $NP_{ni}^{\ k}$> with $NP_{ga}^{\ i}$ = PA (volition, sentience), $NP_{o}^{\ j}$ = PP (change of state, causee), and $NP_{ni}^{\ k}$ = PA (volition, sentience)
   b. V_2 *uke* 'receive': ARG-ST<$NP_{ga}^{\ l}$, $N_{o}^{\ m}$, $NP_{kara}^{\ n}$> with $NP_{ga}^{\ l}$ = PA (volition, sentience), $NP_{o}^{\ m}$ = PP (change of state, causee), and $NP_{kara}^{\ n}$ = PA (volition, sentience)
   c. Expected but *anomalous* matching:
   yuzuri-uke 'yield-receive': ARG-ST<$NP_{ga}^{\ i\bullet l}$, $NP_{o}^{\ j\bullet m}$, $NP_{kara}^{\ k\bullet n}$> with $NP_{ga}^{\ i} \approx NP_{ga}^{\ l}$, $NP_{o}^{\ j} \approx NP_{o}^{\ m}$, and $NP_{ni}^{\ k} \approx NP_{kara}^{\ n}$
   d. Unexpected but *actual* mirror image matching:
   yuzuri-uke 'yield-receive': ARG-ST<$NP_{ga}^{\ k\bullet l}$, $NP_{o}^{\ j\bullet m}$, $NP_{kara}^{\ i\bullet n}$> with $NP_{ga}^{\ i} \approx NP_{kara}^{\ n}$, $NP_{o}^{\ j} \approx NP_{o}^{\ m}$, and $NP_{ni}^{\ k} \approx NP_{ga}^{\ l}$

(16c) shows AS with the regular assumption introduced in (3) that observes the lexical ARG-ST orders as is but ends up being anomalous. To avoid that, a mirror image matching takes place as in (16d), yielding the compound and sentence translations as: $\lambda x \lambda y \lambda z.$(**VIA′**(**yield′**($z$)($y$)($x$))(**receive′**($x$)($y$)($z$))) and **VIA′**(**yield′**(taroo)(book)(hanako))(**receive′**(hanako)(book) (taroo)).

Why an out-of-the-way extra step? The speaker may wish to creatively and efficiently depict yielding and receiving *with a single word*. The receiver perspective of V_2 is superimposed on V_1, effectively 'reversing' the ARG-ST of V_1 and accomplishing mirror image matching. (Recall that the head V_2 dominates AS.) And as with *sell*/*buy* type verbs (unlike for rigid transitive verbs), the ASP permits alternative lexicalizations (i.e. a reversed ARG-ST) when there is 'a tie' in terms of proto-role entailments.[5] In this connection, there is an actual straightforward compound expressing the receiver's perspective exclusively, namely, *morai-uke* 'accept-receive'. In contrast, *yuzuri-uke* in (15a) is a creative mix of two perspectives for retaining the sense of benevolence of yielding associated with *yuzur* which is lacking in *moraw*.

3. A suitable model of grammar

Given that pragmatic information counts as a significant factor in V-V compound formation, let us briefly consider a suitable grammatical architecture to accommodate the

[5] The term lexicalization here simply refers to the process of listing a word as an actual lexical entry. The lexicon consists of morphemes, words, and word-formation rules.

compounds. Such an architecture should be the one that allows us to *simultaneously* access various linguistic information in real time. In the current context, lexical word-formation ought to be able to employ both a formal mechanism (like AS) and pragmatic information (like reference choice). A model that separates and sets up a strict ordering of various components, treating pragmatics as a post-grammatical filter, seems unsuitable.

A model with a pragmatic filter would force us to backtrack unnecessarily and laboriously as in garden path sentences. Considering the complexity of V-V compound formation demonstrated above, we find that such an approach is not only inefficient but also unsatisfactory. For example, for (5a-b) above, backtracking is needed to trace the origin of (5a), a lexical default case (without a reference choice) where the subject argument of V_1 is dismissed, and undo the whole process. Then a new ARG-ST identifying the subject arguments of V_1 and V_2 has to be constructed for (5b).

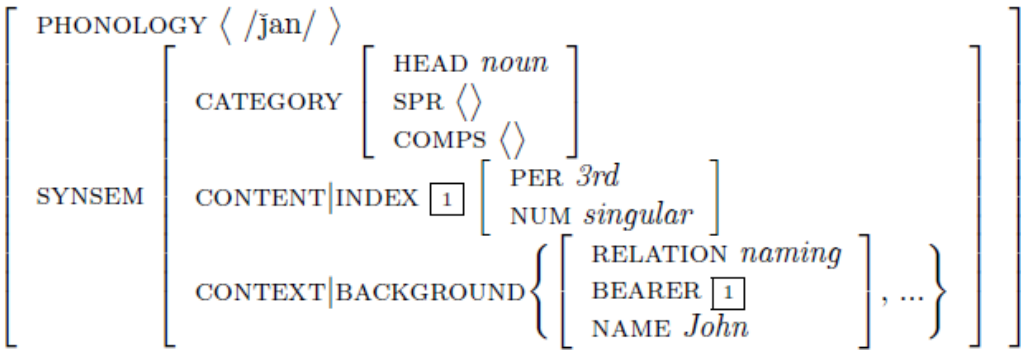
The matters are also problematic for the filtering view with regard to (10) and (15). In (10) we cannot formally have two accusative NPs due to the DAC. However, since the two separately inherited direct object NP arguments are PPs, without any pragmatic information, there is no way to implement differential object marking on just one of them since it requires the information regarding speaker-oriented discourse prominence. While both of the two potential direct object arguments can be marked with *-dake* to avoid violating the DAC (i.e. both supposedly being prominent), such an arrangement ends up in an unnatural stilted interpretation.

As for (15), a regular unmarked attempt of AS ends up being semantically/ pragmatically anomalous, and the intended compounding will simply be rejected. The mirror image argument matching is possible due to the speaker's desire to be linguistically creative and efficient. If the filtering view is correct, for V-V compounds like those in (15) to exist, they have to be rejected once as illegitimate words but reinstated as actual and legitimate after use-based information becomes available. Such a post-grammatical filtering is unconventional and awkward in that instead of screening words out, it allows them in while the formal system has already rejected them.

After all, AS in lexical V-V compound formation is much more intricate than simply tweaking with or micro-adjusting a meaning of a word—(i) semantic proto-role entailments (lexical semantics), (ii) ARG-STs, the DAC, differential object marking (syntax), and (iii) use-based factors and real-world information (pragmatics) need to be consolidated into the process. A suitable model of grammar capable of handling such an interaction is, for example, a constraint-based formalism like HPSG (Sag et al. 2003 and other related frameworks[6]) where linguistic information from various sources (including pragmatics via the CONTEXT attribute) is accessible simultaneously as in (18). The (use-based) information regarding the subject referent, for example, will be shared by the AS process through UNIFICATION of the subject NP (with a specific referent) and the subject NP argument in the verb's ARG-ST.

[6] See, for example, SIGN-BASED CONSTRUCTION GRAMMAR approach (Michaelis 2011, 2013, Sag 2012, Kim 2016) to lexical V-V compounds illustrated by Fukushima (in press). More generally, Fukushima (2002, 2006, 2007) demonstrates applications of the formalism assumed here for grammar-pragmatics interface within the context of Japanese and English.

(18) Constraint-based formalism for the lexical item *John*:



4. Conclusion

It has been demonstrated that use-based and real-world pragmatic factors are determinants in complex word formation, namely, lexical V-V compounds. Downplaying or denying the significance of these factors undermines generalization, analytical precision, efficiency, and creativity in the domain of morphology. An architecture of grammar needed to accommodate the compounds is the one that allows simultaneous access to various (non-)linguistic information (pragmatics inclusive).

References

Chen, Yi-Ting, and Yo Matsumoto (2018). *Nihongo Fukugo Doshi-no Imi-to Taikei* [The Meaning and Systematic Organization of Compound Verbs in Japanese]. Tokyo: Hituzi Syobo.

Dowty, David (1991). Thematic proto-roles and argument selection. *Language* 67, 547–619.

Fukushima, Kazuhiko (2002). Competence and performance revisited: The implications of social role terms in Japanese. *Journal of Pragmatics* 34, 939–968.

Fukushima, Kazuhiko (2005). Lexical V-V compounds in Japanese: Lexicon vs. syntax. *Language* 81, 568–612.

Fukushima, Kazuhiko (2006). The overview of syntax-pragmatics interface. In Keith Brown (ed.) *Encyclopedia of Language and Linguistics Volume 12*, 2nd edn., 422–426. Oxford: Elsevier.

Fukushima, Kazuhiko (2007). Conspiracy of form and context for proper semantic interpretation: The implications of lonesome numeral classifiers in Japanese. *Journal of Pragmatics* 39, 960–989.

Fukushima, Kazuhiko (2021). Getting a head with Japanese lexical V-V compounds. In Jeon Hae-Sung, Peter Sells, Zixi You, Sotaro Kita, and Jaehoon Yeon (eds.) *Japanese and Korean Linguistics 28*, 229–243. Stanford: CSLI Publications.

Fukushima, Kazuhiko (2024). Competition of lexicon vs. pragmatics in word formation: Japanese lexical V-V compounds and argument synthesis. In Alexsandra Bagasheva, Akiko Nagano and Vincent Renner (eds.) *Competition in Word-Formation*, 275–296. Amsterdam: John Benjamins.

Fukushima, Kazuhiko (in press). Being a regular verb and a manner adverbial simultaneously: A privilege for a non-head verb in a V-V compound in Japanese.

In Olivier Duplâtre and Patrick Duffley (eds.), *Expressing Manner*. Berlin: De Gruyter Mouton.
Goldberg, Adele (2006). Pragmatics and argument structure. In Laurence R. Horn and Gregory Ward (eds.) *The Handbook of Pragmatics,* 427–441. Oxford: Blackwell.
Green, Georgia (2006). Some interactions of pragmatics and grammar. In Laurence R. Horn and Gregory Ward (eds.) *The Handbook of Pragmatics,* 407–426. Oxford: Blackwell.
Harada, Shinichi (1973). Counter equi NP deletion. *Annual bulletin 7*. Tokyo: Research Institute of Logopedics and Phoniatrics, University of Tokyo, 113–47.
Himeno, Masako (1999). *Hukugoodooshi-no Kozo-to Imiyoohoo* [Structure and Semantic Usage of Compound Verbs]. Tokyo: Hituzi Syobo.
Horn, Laurence R. and Gregory Ward (2006). *The Handbook of Pragmatics*. Oxford: Blackwell.
Horn, Laurence R. (2017). Pragmatics and the lexicon. In Yan Huang (ed.) *The Oxford Handbook of Pragmatics*, 511–531. Oxford: Oxford University Press.
Kageyama, Taro (1993). *Bunpoo-to Gokeisei* [Grammar and Word-Formation]. Tokyo: Hituzi Syobo.
Kageyama, Taro (2013). *Fukugodoshi Kenkyu-no Saisentan* [New Explorations into the Mysteries of Compound Verbs]. Tokyo: Hituzi Syobo.
Kabatek, Johannes, Philipp Obrist, and Albert Wall (2021). The third wave of studies on DOM in Romance: An introduction to this volume. In Johannes Kabatek, Philipp Obrist & Albert Wall (eds.) *Differential Object Marking in Romance: The Third Wave*. 3rd edn, 3–19. Berlin: De Gruyter Mouton.
Kim, Jong-Bok (2016). *The Syntactic Structure of Korean*. Cambridge: Cambridge University Press.
Li, Yafei (1993). Structural head and aspectuality. *Language* 69, 480–504.
Matsumoto, Yo (1996). *Complex Predicates in Japanese: A Syntactic and Semantic Study of the Notion 'Word'*. Stanford: CSLI Publications.
Matsumoto, Yo (1998). Nihongo-no goiteki fukugodoshi-niokeru doshi-no kumiawase [Verb combinations displayed by lexical V-V compounds in Japanese]. *Gengo Kenkyu* [Language Research], 114, 37–83.
Michaelis, Laura (2011). Stative by construction. *Linguistics* 49, 1359‑1399.
Michaelis, Laura. (2013). Sign-based construction grammar. In Thomas Hoffmann and Graeme Trousdale (eds.), *The Oxford Handbook of Construction Grammar*, 133‑152. Oxford/New York: Oxford University Press.
Nishiyama, Kunio (1998). V-V compounds as serialization. *Journal of East Asian Linguistics* 7, 175–217.
Nishiyama, Kunio (2002). V-V compounds. In Shigeru Miyagawa and Mamoru Saito (eds.) *The Oxford Handbook of Japanese Linguistics*, 320–347. Oxford: Oxford University Press.
Sag, Ivan, Thomas Wasow, and Emily Bender (2003), *Syntactic Theory: A Formal Introduction*, 2nd edn. Stanford: CSLI Publications.
Sag, Ivan (2012). Sign-based construction grammar: an informal synopsis. In Hans Boas and Ivan Sag (eds.), *Sign-Based Construction Grammar*, 31‑67. Stanford: CSLI Publications.
Toratani, Kiyoko (2002). *The Morphosyntactic Structure and Logical Structures of Compound Verbs in Japanese*. Doctoral dissertation, University of New York at Buffalo.

Yumoto, Yoko (2005). *Fukugodoshi/Haseidoshi-no Imi-to Togo: Mojuru Keitairon-kara Mita Nichieigo-no Doshi Keisei* [The Semantics and Syntax of Compound Verbs/Derived Verbs: Verb-Formation in Japanese and English Viewed from a Modular Morphological Perspective]. Tokyo: Hituzi Syobo.