

Asymmetries in Form and Meaning: Surface Realization and Interface Conditions

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Approaching Asymmetry at the Interfaces
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1 Introduction

Problem: Languages package the same features of meaning into morphophonological units of different sizes → mismatch between surface form and meaning

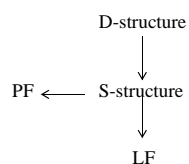
Some causatives:

- | | | |
|-----|--|--------------------|
| (1) | Ken-ga Naomi-o suwar- ase -ta
Ken-Nom Naomi-Acc sit-Caus-Past
'Ken made Naomi sit.' | (Japanese) |
| (2) | Ara-n yerex-in p'at'uhan-e bats-el t' v -ets
Ara-Nom child-Dat window-Acc open-Inf give-Aor.3sg
'Ara made the child open the window.' | (Eastern Armenian) |
| (3) | m- an -sitrika
Actor-Caus-hide
'to make hide' | (Malagasy) |

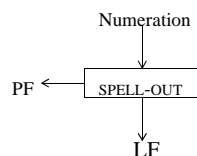
Interfaces

Hypotheses about how syntactic representations interface with the phonological and semantic components

1. GB Model
(e.g. Chomsky 1977)



2. Minimalist Program
(Chomsky 1995)



3. Multiple Spell-Out or Derivation by Phase
→ LF and PF interfaces are fed cyclically as the derivation unfolds.

Chomsky (1998, 1999): phase is defined at boundaries of independent syntactic objects.

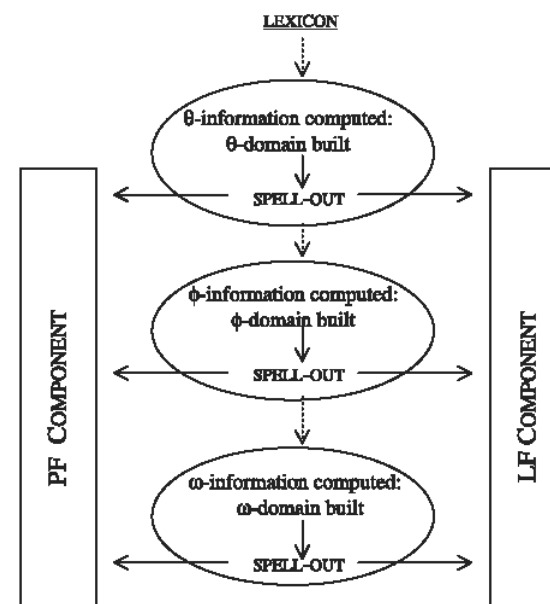
example: verbal phrases with full argument structure; CP with force indicators

Uriagereka (1999): spell-out applies to chunks in which a command relation holds.

Grohmann (2000): divides computational system into three domains consisting of similar projections.

Platzack (2001): tripartite computational system consisting of V-domain, I-domain and C-domain.

Fig. 1: Grohmann's three Prolific Domains



Proposal

PF and LF phases are distinct:

- Spell-out node to PF is a parameter across languages.
- LF phase node is universal.

⇨ asymmetry in surface form and meaning is due to the distinct interface nodes to PF and LF.

2 Armenian Causative Constructions

There are two types of causative constructions in Eastern Armenian: Morphological and Analytic.

- (4) a. shor-er-e chor-an-um en
 dress-pl-Nom dry-Inch-Imp be-3pl
 ‘The clothes are drying.’
 b. Nairi-n shor-er-e chor-**atsn**-um e (MC)
 Nairi-Nom dress-pl-Acc dry-Caus-Imp be-3sg
 ‘Nairi is drying the clothes.’

- (5) a. yerexa-n p’at’uhan-e bats-ets
 child-Nom window-Acc open-Aor.3sg
 ‘The child opened the window.’
 b. yerex-in p’at’uhan-e bats-el **t’v-ets-i** (AC)
 pro child-Dat window-Acc open-Inf give-Aor-1sg
 ‘I made the child open the window.’

2.1 Distribution

Morphological Causatives

- Deadjectival predicates that denote a change of state (unaccusatives)

(6)	<u>Adjective</u>	⇨	<u>Change of State</u>	⇨	<u>CAUSE change of state</u>
	chor (dry)		choranal (dry)		chor- ats -nel(dry)
	metz(big)		metzanal (grow)		metz- ats -nel(grow, bring up)
	arag (fast, quick)		araganal (quicken, speed up)		arag- ats -nel(accelerate)
	chaq (fat)		chaqanal (become fat)		chaq- ats -nel(fatten)
	sev (black)		sevanal (blacken)		sev- ats -nel(blacken, darken)
	urax (happy)		uraxanal (become happy)		urax- ats -nel(make happy)
	jqayn(angry)		jqaynanal(become angry)		jqayn- ats -nel(make angry)

- Unergatives

(7)	latsel (cry)	⇨	lats- ats -nel(make cry)
	vazel (run)		vaz- ats -nel(make run)
	tzitzaqel (laugh)		tzitzaq- ats -nel(make laugh)
	xosel (speak, talk)		xos- ets -nel(make speak, make talk)
	knel (sleep)		kn- ats -nel(put to sleep, marinade)
	xaqal (play)		xaq- ats -nel(make play)

- Certain transitives

(8)	xmel (drink)	⇨	xm- ets -nel(make drink)
	haknel (wear, put on)		hak- ts -nel(make wear, put on)
	hask’anal(understand)		hask’- ats -nel(make understand)
	sovorel (learn, get used to)		sovor- ets -nel(teach)

Analytic Causatives

- Transitives

(9)	p’asht’el(admire/worship)	⇨	p’asht’el t’al (make admire/worship)
	k’ot’rel(break)		k’ot’rel t’al (make break)
	batsel (open)		batsel t’al (make open)
	grel (write)		grel t’al (make write)
	sp’anel (kill)		sp’anel t’al (make kill)

- Light verb constructions

(10)	het’ gal(back come = return)	het’ gal t’al (make return)
	telefon anel (phone do = call; phone)	telefon anel t’al (make phone)
	man gal (promenade come = walk)	man gal t’al (make walk)

- Most verbs that form a morphological causative (with different interpretations)

***External Arguments.** Availability of an external argument in the base predicate is a distinguishing factor in the two causative constructions.

2.2 Binding Facts

Subject-oriented anaphors in Armenian are bound by the closest c-commanding subject antecedent

- (11) Vrej-e_i uzum er [vor Armen-e_j **inkn ir**_{*i/j} das-e gri]
 Vrej-Nom wanting was that Armen-Nom self-Gen lesson-Acc write-Subj/3sg
 ‘Vrej_i wanted Armen_j to write his_{*i/j} own lesson.’

- The subject-oriented anaphor corefers
 - only with the matrix subject (causer) in the morphological causative
 - with the embedded subject (causee) in the analytic causative

- (12) ?? Ara-n_i yerex-in_j **inkn ir**_{*i/j} deq-e xm-ets-rets (MC)
 Ara-Nom child-Dat self-Gen medication-Acc drink-CAUS.Past.3sg
 ‘Ara_i made the child_j drink his_{*i/j} own medication.’

- (13) ? Ara-n_i yerex-in_j **inkn ir**_{*i/j} senyak’-e dasavorel t’vets (AC)
 Ara-Nom child-Dat self-Gen room-Acc organize gave.3sg
 ‘Ara_i made the child_j clean up his_{*i/j} own room.’

- The subject-oriented anaphor in an adjunct corefers
 - only with the matrix subject (causer) in the morphological causative
 - with the matrix subject (causer) or embedded subject (causee) in analytic causatives

- (14) tzaqratzu-n_i Ara-in_j [**inkn ir**_{*i/j} k’uk’la-y-ov] tzitzaq-ats-rets
 clown-Nom Ara-Dat self-Gen doll-Inst laug-CAUS-Aor.3sg
 ‘The clown_i made Ara_j laugh with his_{*i/j} own doll.’

- (15) profesor-e_i ashak’ert’-in_j [**inkn ir**_{?i/j} herat’esil-ov] ast’qer-e nayel t’vets
 professor-Nom student-Dat self-Gen telescope-Inst stars-Acc watch gave.3sg
 ‘The professor_i made the student_j watch the stars with his_{?i/j} own telescope.’

⇒ Causee of the analytic causative, but not of the morphological causative, has ‘subjecthood’ properties.

2.3 Adverbial Scope

- Manner adverbs refer to
 - the matrix subject (causer) in the morphological causative
 - the embedded subject (causee) in the analytic causative

- (16) Ara-n Nairi-in **vst’ah** xos-ets-rets (MC)
 Ara-Nom Nairi-Dat confident speak-Caus-Past/3sg
 (i) ‘With confidence, Ara made Nairi speak.’ (i.e., Ara was confident, not Nairi)
 (ii) ‘Ara certainly made Nairi speak.’

- (17) Ara-n Nairi-in **vst’ah** xos-el t’vets (AC)
 Ara-Nom Nairi-Dat confident speak-Inf gave-3sg
 (i) ‘Ara made Nairi speak with confidence.’ (i.e., Nairi was confident, not Ara)
 (ii) ‘Ara certainly made Nairi speak.’

2.4 Agency and Volition

- The causees in the AC constructions are more agentive, whereas the causees of the MC structures seem to undergo the action and lack volition.

- (18) a. zinvor-e ashak’ert’-in mekena-yi mech mt’-ts-rets (MC)
 soldier-Nom student-Dat car-Gen inside enter-Caus-Past/3sg
 ‘The soldier pushed the student in the car.’

- b. zinvor-e ashak’ert’-in mekena-yi mech mt’nel t’vets (AC)
 soldier-Nom student-Dat car-Gen inside enter gave
 ‘The soldier made the student enter the car.’

- (19) a. Naira-in hey pt’t’-ats-rank minchev vor enk’av (MC)
 pro Naira-Dat continually turn-Caus-Past/1pl until that fell-3sg
 ‘We kept turning/rotating Naira until she fell.’

- b. Naira-in hey pt’t’-el t’vank minchev vor enk’av (AC)
 pro Naira-Dat continually turn-Inf gave-1pl until that fell-3sg
 ‘We made Naira turn until she fell.’

- (20) a. menk Ara-in lav xm-ats-rank (MC)
 we Ara-Dat good drink-Caus-Aor/1pl
 ‘We made Ara drink a lot (i.e., we made Ara get drunk).’

- b. menk Ara-in lav xm-el t’vank (AC)
 we Ara-Dat good drink-Inf gave-1pl
 ‘We made Ara drink a lot.’

- An inanimate causee can only appear in the morphological causative.

- (21) a. yerexa-n k’uk’la-in mt’-ts-rets t’an mech (MC)
 child-Nom doll-Dat enter-Caus-Past/3sg house(Gen) inside
 ‘The child pushed the doll into the house.’

- b. ?* yerexa-n k’uk’la-in t’an mech mt’nel t’vets (AC)
 child-Nom doll-Dat house(Gen) inside enter gave
 ‘The child made the doll enter the house.’

⇒ Causee of the analytic causative, but not of the morphological causative, is agentive/volitional.

2.5 Idioms and Agency

Idiomatic readings are available only if there is no agent (Marantz 1997, Ruwet 1991)

- Only the morphological causative gives rise to idiomatic interpretations. The idiomatic readings disappear in the AC constructions.

(22)	trnel (fly)	⇒	tr- ts -nel (steal)
	tzaqk'el(bloom)		tzaqk'- ats -nel(embellish)
	metzanal (grow)		metz- ats -nel (exaggerate)
	pt't'el (turn)		pt't'- ats -nel(take for a ride, carry around)
	knel (sleep)		kn- ats -nel (marinate)
	xaqal (play)		xaq- ats -nel(mess with, mock)
	neqanal (thin, shrink)		neq- ats -nel(disturb, bug)
	k'armrel (redden, blush)		k'armr- ats -nel (brown, saute)
	paxnel (escape)		pax- ts -nel (kidnap)

- (23) a. Ara-n trchun-in tr-**ts**-rets
 Ara-Nom bird-Dat fly-Caus-Past/3sg
 (i) 'Ara made the bird fly.'
 (ii) 'Ara stole the bird.'
- b. Ara-n trchun-in trnel t'**vets**
 Ara-Nom bird-Dat fly gave
 (i) 'Ara made the bird fly.'
 (ii) * 'Ara stole the bird.'

The underlying predicate of the Analytic Causative, but not of the Morphological causative, has an external argument.

• **Clausal Properties.** The Morphological causative is monoclausal, but the Analytic causative is biclausal.

2.6 Adverbial Scope

- Adverbs have scope over the whole event in the morphological causative, and over either event (causation or underlying) in the analytic causative.

(24) bjishk'-e bandark'yal-in k'amats nst'-**ats**-rets (MC)
 doctor-Nom prisoner-Dat slow sit-Caus-Past/3sg
 'The doctor sat the prisoner down slowly.'

(25) bjishk'-e bandark'yal-in k'amats nst'-el t'**v-ets** (AC)
 doctor-Nom prisoner-Dat slow sit-Inf gave.3sg
 (i) 'The doctor slowly/quietly made the prisoner sit down.'
 (ii) 'The doctor made the prisoner sit down slowly.'

2.7 Negation

- The underlying event can be negated independently of the causation in analytic causatives, but not in morphological causatives.

- (26) yes ashak'ert'-ner-inays girk-e k'art-al t'**vetsi**, bayts der mi t'oqel ch-en k'artat-sel
 I student-Plur-Dat this book-Acc read-Inf gave but yet one line even Neg-are read
 'I made the students read this book, but they haven't yet read a single line.' (AC)
- (27) *usutsich-e Ara-in ays girk-e k'art-**ats**-rets, bayts der mi t'oqel ch-i k'artat-sel
 teacher-Nom Ara-Dat this book-Acc read-Caus-Past but yet one line even Neg-is read
 'The teacher made Ara read this book, but he hasn't yet read a single line.' (MC)

2.8 Embedded Causatives

- Causativization of a causative predicate can only be formed using the analytic causative.

(28) a. Anush-e yerex-in kn-ats-rets
 anush-Nom child-Dat sleep-Caus-Past.3sg
 'Anush put the child to sleep.'

b. * Ara-n Anush-in yerex-in kn-ats-ats-rets (MC)

Ara-Nom Anush-Dat child-Dat sleep-Caus-Caus-Past.3sg
 'Ara made Anush put the child to sleep.'

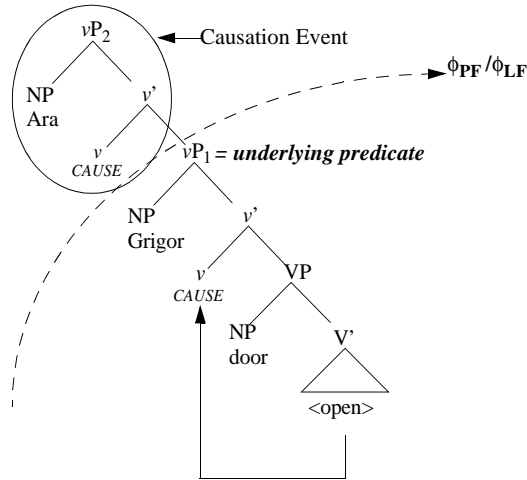
c. Ara-n Anush-in yerex-in kn-ats-nel t'vets (AC)

Ara-Nom Anush-Dat child-Dat sleep-Caus-Inf gave
 'Ara made Anush put the child to sleep.'

Morphological Causatives have a single event: monoclausal
 Analytic Causatives have two independent events: biclausal

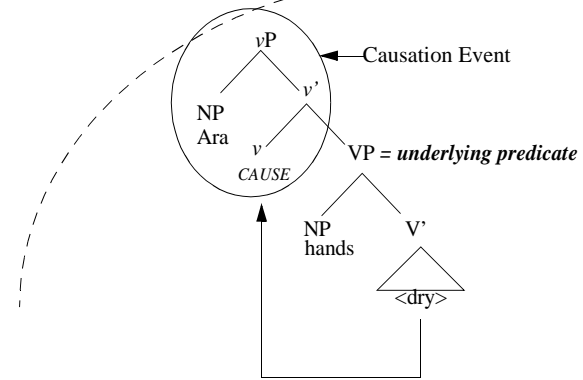
3 Analysis

(29) Analytic Causative:



example: Ara-n Grikor-in duR-e bats-el t'v-ets
 Ara-Nom Grigor-Dat door-Acc open-Inf gave.3sg
 'Ara made Grigor open the door.'

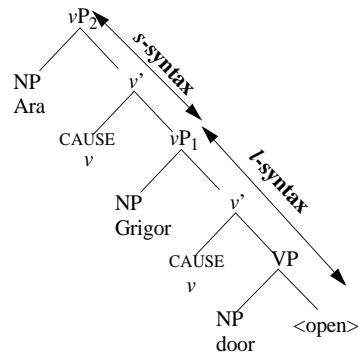
(30) Morphological Causative: ϕ_{PF}/ϕ_{LF}



example: Ara-n dzeRker-e chor-ats-rets
 Ara-Nom hands-Acc dry-Caus-Past.3sg
 'Ara dried his hands.'

- ▶ If v_{cause} attaches to a vP with an external argument \Leftrightarrow analytic causative
 v_{cause} added as a separate event on a full verbal predicate
- ▶ If v_{cause} attaches to a VP node which does not include a little-v (i.e., an event) \Leftrightarrow morphological causative
 v_{cause} forms a full vP with the base predicate (VP)
 the causative event is part of the verbal complex

▶ Similar to l-syntax (lexical syntax) vs. s-syntax (syntactic syntax) -- (Hale and Keyser 1993, Travis 1999)



4 Japanese Causatives

The following data are from Matsumoto (1996, 1998), Harley (1996) and Miyagawa (1989).

- Three types of causatives formed with *-sase*

(31) a. *let* causatives:
 John-wa Mary-ni ik-(s)ase-ru
 John-Top Mary-Dat go-Caus
 ‘John lets Mary go.’

b. *make* causatives:
 John-wa Mary-o ik-(s)ase-ru
 John-Top Mary-Acc go-Caus
 ‘John makes Mary go.’

c. *lexical* causatives: [formed on intransitives and ingestive transitives]
 Hahaoya-wa akachan-ni kutsushita-o hak-ase-ta
 mother-Top baby-Dat socks-Acc put.on-Caus-Past
 ‘The mother put the socks on the baby’s feet.’

- Binding properties:
 pronoun *kare* must be referentially disjoint from subject in its clause.
 - *kare* can be bound by matrix subject in *let* and *make* causatives ⇨ causer and causee are in different clauses (biclausal structure).
 - *kare* cannot corefer with matrix subject in lexical causatives ⇨ monoclausal structure

(32) a. *let* causatives:
 Taro_i-wa Jiroo_j-ni sonomama kare_{i/*j}-o bengo s-asete oi-ta
 Taro-Top Jiro-Dat as.it.is he -Acc defend do-Caus put-Past
 ‘Taro appears to let Jiro continue to defend him.’

b. *make* causatives:
 Taro_i-wa Jiroo_j-ni muriyari kare_{?i/*j}-o bengo s-asete oi-ta
 Taro-Top Jiro-Dat forcibly he -Acc defend do-Caus put-Past
 ‘Taro appears to make Jiro continue to defend him.’

c. *lexical* causatives:
 Anpanman_i-wa akachan-ni kare_{*i}-o tabe-sase-ta
 Anpanman-Top baby-Dat he -Acc eat-Caus-Past
 ‘Anpanman gave his body to (feed) the baby.’

- Binding properties with reflexives:
 agent-oriented reflexive *karejishin* must be bound within its clause.

- *karejishin* can be bound by causee in *let* and *make* causatives ⇨ causee has agentive/subject properties.
- *karejishin* cannot be bound by causee, only matrix subject ⇨ causee has no agentive/subjecthood properties & monoclausal structure.

(33) a. *let* causatives:
 Taro_i-wa Jiroo_j-ni sonomama karejishin_{*i/j}-o bengo s-asete oi-ta
 Taro-Top Jiro-Dat as.it.is himself-Acc defend do-Caus put-Past
 ‘Taro appears to let Jiro continue to defend himself.’

b. *make* causatives:
 Taro_i-wa Jiroo_j-ni muriyari karejishin_{?i/j}-o bengo s-asete oi-ta
 Taro-Top Jiro-Dat forcibly himself-Acc defend do-Caus put-Past
 ‘Taro appears to make Jiro continue to defend himself.’

c. *lexical* causatives:
 Anpanman_i-wa akachan-ni karejishin_i-o tabe-sase-ta
 Anpanman-Top baby-Dat himself-Acc eat-Caus-Past
 ‘Anpanman gave his own body to (feed) the baby.’

- Subject honorification:
 - on causee in *let* causatives, but disallowed on causee of lexical causatives

(34) a. *let* causatives:
 Karera-wa ooji-ni sono kutsushita-o o-haki ni nar-aseteoki-mashi-ta
 they-Top prince-Dat the socks-Acc H-put.on Copbecome put-Pol-Past
 ‘They let the prince (continue to) put the socks on his feet.’

b. *make* causatives:
 ?Karera-wa muriyari ooji-ni sono kutsushita-o o-haki ni nar-ase-mashi-ta
 they-Top forcibly prince-Dat the socks-Acc H-put.on Copbecome-Caus-Pol-Past
 ‘They forcibly made the prince put the socks on his feet.’

c. *lexical* causatives:
 *Karera-wa mada sankagetsuno ooji-ni sono kutsushita-oo-haki ni nar-ase-mashi-ta
 they-Top yet three.moth Cop prince-Dat the socks-Acc H-put.on-Cop become-Caus-Pol-Past
 ‘They put the socks on the three-moth-of prince’s feet.’

- Adverbial scope:
 - ambiguous in *let* and *make* causatives ⇔ biclausal structure.

(35) Ken-ga damatta Naomi-o suwar-ase-ta
 Ken-Nom silently Naomi-Acc sit-Caus-Past
 (i) ‘Ken silently made Naomi sit.’
 (ii) ‘Ken made Naomi sit silently.’

- Idioms
 Lexical causatives, but not the *let/make* causatives, can give rise to idiomatic interpretations.

(36) a. aw ⇔ tikara-o aw-ase
 become together power-Acc together-Caus
 ‘become together’
 b. hara-ga her ⇔ hara-o her-ase
 stomach-Nom lesson stomach-Acc lesson-Caus
 ‘get hungry’
 ‘wait for a meal’

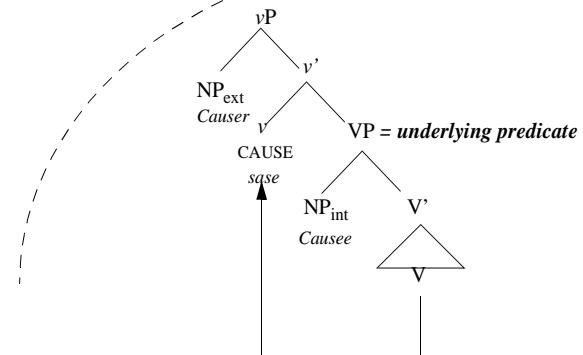
Conclusion:
let and *make* causatives are biclausal
 lexical causatives are monoclausal

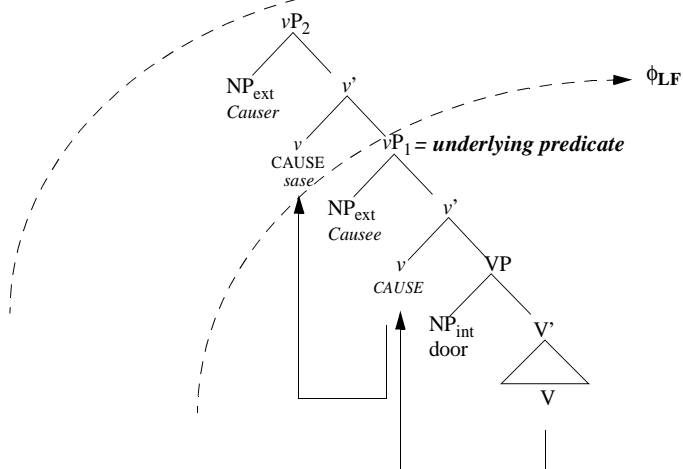
5 Phases

Table 1: Properties of Japanese & Armenian Causatives

	Japanese		Armenian	
	Lexical Causative	“Let” Causative	MC	AC
<i>kare</i> bound by causer	No	Yes	--	--
Agent-oriented anaphor bound by causer	Yes	No	Yes	No
Agent-oriented adverb refers to causee	No	Yes	No	Yes
Subject honorification on causee	No	Yes	--	--
Idiomatic reading	Yes	No	Yes	No
Base subject (causee) is agentive	No	Yes	No	Yes
Ambiguous adverbial & negation scope	No	Yes	No	Yes

(37) Japanese Lexical Causative: → ϕ_{PF}/ϕ_{LF}



(38) Japanese *Let* Causative: $\rightarrow \Phi_{PF}$ 

- vP , TP and CP domains are structural steps in the derivation that consist of functional projections of the same type and serve as spell-out nodes to LF for the successive-cyclic computational process (cf. Grohmann and Platzack).

- PF spell-out nodes are a parameter of the language \rightarrow this allows us to capture the “wordhood” of verbal predicates at surface form and to account for any discrepancies between meaning and surface realization observed.

6 Conclusion

- Contrastive look at causatives in Eastern Armenian and Japanese:
 - one causative type displays similar syntactic and semantic properties in both languages, but is expressed as a *word* in Japanese and as a *phrase* in Armenian.
- PF-phase parameter
- Two distinct notions of ‘word’:
 - PF-words (representing the surface form) that can vary cross-linguistically in the sets of features they contain;
 - LF-words (representing the meaning) that are universal sets of primitive features applying at “domain” boundaries.

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