The structure of the Vedic periphrastic perfect: A comparative perspective

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The Vedic periphrastic perfect construction

- The Vedic periphrastic perfect construction (PPC): fossilized accusative singular of a verbal noun + DO, BE, or BECOME auxiliary/light verb inflected for voice, aspect (perfect), tense, and agreement.
- Recent discussions: Ozono (2016); Ittzés (2022a)

Some remaining issues:

- The distribution of the Vedic PPC is partially morphosyntactically and partially phonologically conditioned: "secondary" verbs (causatives, desideratives, etc.) can only form a PPC, as well as roots of the shapes VCC and $\bar{\text{V}}$C
- The varying behavior with respect to the voice marking on the auxiliary: $\sqrt{kr̥}$/DO alternates between active and middle endings and PPCs from deponent verbs taking middle endings, while $\sqrt{as}$/BE is restricted to active forms, including for deponent PPCs.

Today's goal

- The goal today is to address these issues from a comparative and theoretical perspective
- Specifically, comparison of the Vedic PPC with its Ancient Greek counterpart reveals interesting microvariation w.r.t.:
  - PPCs from denominal and deponent verbs
  - Voice and aspectual marking on the aux. vs. the nonfinite part of the constructions
- A formal account of the morphosyntactic features involved in these constructions can help make sense of the cross-linguistic variation we observe in PPCs

The Vedic verbal system

- PERSON: 1, 2, 3. (infl. endings)
- NUMBER: Sg., Dual, Pl. (infl. endings)
- VOICE: active/nonactive ("middle"; infl. endings)
- ASP: imperfective/perfective; perfect (?), marked on the stem via affixation and/or ablaut.
- TENSE: past/nonpast (past/present), marked on the infl. endings (+ past tense prefix, "augment")
- MOD: indicative, future (?), subjunctive, optative, imperative: suffixes (except ipv.: endings)
- "secondary" stems (Aktionsart?): causative, desiderative, intensive, denominal

Vedic: two types of perfect

- Inherited synthetic perfect (reduplication + special set of endings), (1).
- Base = *root*; verbal stems do not reduplicate

(1) Vedic reduplicated synthetic perfects

√	Perf. act. (3sg)		Perf. mid. (3sg)	
kar 'do'	*ca-kā́r-a*	'has made'	*ca-kr-é*	'has been made'
tod 'push'	*tu-tod-a*	'has pushed'	*tu-tod-é*	'has been pushed'
nay 'lead'	*ni-nā́y-a*	'has led'	*ni-ny-é*	'has been led'

Various morphophonological/-semantic subtypes (Whitney 1879: 255–70; Macdonell 1910: 351–365; Krisch 1996; Kümmel 2000):

- Vowel-initial roots could form synthetic perfects:
  - $\sqrt{\bar{a}p}$ 'reach', 3sg. perf. act. *ā́p-a* < **h₁e-h₁(o)p-* $\sqrt{as}$ 'be': perf. *ā́s-a* 'has been' < **h₁e-₁(e)s-*, etc.
  - Synchronically via lengthening of the initial vowel; diachronically reduplication of initial laryngeal
- Some perfects were reanalyzed as stative presents: 3sg. act. *véda* 'knows' < *'has seen'; *bibhā́ya* 'is afraid, fears' < *'has become afraid'

Two types of perfect

- Analytic/periphrastic perfect: accusative of a verbal (abstract) noun in -*ā*- plus the *finite synthetic perfect* of an auxiliary or "light verb"
  - Usually *kr̥* 'do, make' or *as* 'be', more rarely *bhū* 'be(come)' (Pāṇini: only *kr̥*); Whitney 1879: 347ff., Delbrück 1888: 426f., Macdonell 1910: 365, Gotō 2013: 123, Ittzés 2022a.
  - Use of *kr̥* older, use of *as* innovative (Ittzés 2022a)

Productive in making the perfect to derived verbal (present) *stems* such as the causative, intensive, and desiderative, but also to vowel-initial roots in which reduplication would be phonotactically problematic.

- It also replaces inherited synthetic perfects that have become semantically opaque/reanalyzed as presents:
  - *veda* 'knows' : *vidām cakāra* 'has known'; *bibhāya* 'is afraid' : *bibhayām cakāra* 'has feared'

The Vedic PPC

(2) Vedic periphrastic perfects with *kṛ* 'do'

Base	Verbal noun	Auxiliary act. nonact.	Meaning
Pres.	*vya-**y**-ā́m* √-*v*-VN.ACC	***ca**-kār-**a*** PF$_{\text{RED}}$-DO-3SG	'has covered'
	***bi**-bhay-ā́m* PRS$_{\text{RED}}$-√-VN.ACC	***ca**-kār-**a*** PF$_{\text{RED}}$-DO-3SG.PF	'was afraid'
Caus.	*bodh-**ay**-ā́m* √-CAUS-VN.ACC	***ca**-kār-**a*** PF$_{\text{RED}}$-DO-3SG.PF	'has caused to wake up'
Desid.	***ji**-ghāṃ-**s**-ā́m* DES$_{\text{RED}}$-√-DES-VN.ACC	***ca**-kār-**a*** PF$_{\text{RED}}$-DO-3SG.PF	'has wanted to kill'
Denom./ dep.	*ā-mantra-**y**-ā́m* PRVB-*n*-*v*-VN.ACC	***ca**-kr-**e*** PF$_{\text{RED}}$-DO-3SG.PF.NACT	'has addressed'
Dep.	*īḍ-Ø-ā́m* √-PRS-VN.ACC	***ca**-kr-**e*** PF$_{\text{RED}}$-DO-3SG.PF.NACT	'has praised'

- verbal stem-forming morphology (***v***) on the verbal noun vs. **perf. asp.**, **voice**, tense and agreement morphology on the auxiliary.
- This is also the case for deponents/obligatorily nonactive verbs: Their DO-auxiliary is *nonactive*.

Vedic PPCs

(3) Vedic PPCs; *kṛ* vs. *as*: ***v*** on verbal noun (= VN); **Voice**, **perf./Asp** on AUX

a. Desiderative perf.		b. Causative perf.		c. Deponent perf.	
verbal noun	aux.act.	verbal noun	aux.act.	verbal noun	aux.mid./ act.
bu-√bhuk-**ṣ**-ám	**ca**-kār-**a** **ā**s-**a**	√bodh-**ay**-ám	**ca**-kār-**a** **ā**s-**a**	√i<**n**>dh-ám	**ca**-kr-**e** **ā**s-**a**
'has wanted to eat'		'has caused to wake up'		'has ignited'	

Vedic PPCs

The PPC only occurs when certain features are combined ("overflow pattern", Bjorkman 2011), namely when Asp[PERF] combines with derived verb stems (e.g., causative, denominal), whereas non-perfect causatives and non-causative perfects are synthetic, (4).

(4) Ved. synthetic perfects & causatives vs. analytic causative perfect

Synthetic perf.act.	Synthetic caus.act	Perf.caus.act (= PPC)
bu-bodh-**a**	bodh-**aya**-**ti**	bodh-**ay**-ām **ca**-kār-**a**
PF-√-3SG.PF.ACT	√-CAUS-3SG.PRS.ACT	√-CAUS-VN PF-DO-3SG.PF.ACT
'has woken up'	'causes to wake up'	'has caused to wake up'

Vedic PPCs

- In the case of roots with of the structure $\bar{V}C$ or VCC, reduplication is not possible due to phonotactic reasons, and so the PPC is the only option for forming a perfect → no "overflow" of (morphosyntactic) features
- Kiparsky (2005) argues that these two environments for the PPC (a morphosyntactic and a phonological one) provide support for a lexicalist, competition-base blocking account, in which synthetic forms "block" the formation of periphrastic ones unless they themselves cannot be formed (e.g., because of a phonotactic restriction, as in this case).
- But this leaves the morphological/morphosyntactic restriction unexplained - phonotactically, there's nothing wrong with a reduplicated perfect from a causative (?**bubodhaya* or Kiparsky's ex. **cicintaya* 'has thought') or from a denominal verb (**mamantraya*-)
- Moreover, denominal verbs in Ancient Greek (AG), which has inherited the same synthetic reduplicated perfect, are able to form synthetic perfects.

The Greek PPC: perfect reduplication

- The AG verbal system is very similar to the Vedic one w.r.t. inflection & stem formation
- Perfect reduplication competes with other (mostly suffixal) stem-forming morphemes that build present and aorist stems
  - Suggests competition for the same structural v/Asp position, cf. Schreiner 2021; Grestenberger 2022b; Calabrese & Grestenberger 2023.
- Unlike in Vedic, in AG denominal verbs can form reduplicated perfects, (5).

(5) AG present, aorist, and perfect stems of denominal verb (1pl.act./nonact.); nominal stem = **bold**, verbal stem-forming suffix = underlined (*phulátt*$\bar{o}$/*phulássō* 'to guard')

Base	Pres.	Aor.	Perf.
phúlak- 'a guard'	**phulátt**-o-men (< ***ak**-j(-)o-)	**phulák**-sa-men	pe$_{\text{RED}}$-**phúlag**-Ø-mai

PPCs in Ancient Greek

- Besides the inherited synthetic perfect, AG also develops a periphrastic perfect based on the perfect participle + BE aux.
- verbal stem-forming/aspectual morphology and Voice [ACT/MID] are realized on the participle, while T/Agr is spelled out on a BE auxiliary with default active inflection, (6).
- Periphrasis *always* occurs in the (resultative) perfect, unlike in Vedic ("additive pattern", Bjorkman 2011)

(6) PPCs in AG: **perf.** = marked by reduplication; ptcp.act/mid. = **voice**

Perfect act.		Perf. nonact./pass.	
Perf.ptcp.act.	BE aux.act.	Perf.ptcp.nonact.	BE aux.act.
le-√lu-k-**ő**-s	eimi	**le**-√lu-**mén**-os	eimí
'I have released'		'I have been released'	

PPCs in Ancient Greek

(7) Periphrastic perfect constructions in AG; AUX = *eĩnai* (1Sg. *eimí*) 'be'.

	Participle		Auxiliary		
	act.	nonact.	act.	nonact.	
a. Perf.act.	**le**-lu-k-**ős**		ei-mi		'have released'
b. Perf.pass.		**le**-lu-**mén**-os	ei-mi		'have been released'
c. Pluperf.act.	**le**-lu-k-**ős**		ẽ̃-n		'had released'
d. Pluperf.pass.		**le**-lu-**mén**-os	ẽ̃-n		'had been released'
e. Perf.subj.act.	**le**-lu-k-**ős**		ṍ		'shall release'
f. Perf.subj.pass.		**le**-lu-**mén**-os	ṍ		'shall be released'
g. Perf.opt.act.	**le**-lu-k-**ős**		e-íē-n		'might release'
h. Perf.opt.pass.		**le**-lu-**mén**-os	e-íē-n		'might be released'
i. Fut.perf.act.	**le**-lu-k-**ős**			é-so-mai	'will have released'
j. Fut.perf.pass.		**le**-lu-**mén**-os		é-so-mai	'will have been –//—'

$\sqrt{}$(-*v*)-**Voice**-**Asp** on the participle; (Mod)-T-Agr on the auxiliary

PPCs and deponency

- Vedic and Greek differ in their treatment of middle morphology in the PPC, which is best illustrated with PPCs to deponent verbs.
  - Verbs with active syntax, but nonactive/middle morphology; see Grestenberger 2018, 2019, To appear
- Vedic, the middle Voice feature of the deponent is expressed on the light verb/auxiliary, (8a.). The verbal noun is neutral w.r.t. voice marking.
- In Greek, the middle Voice feature is expressed on the nonfinite part of the construction, the participle - the auxiliary takes the active (Elsewhere) endings
  - On active = Elsewhere cf. Grestenberger 2021 with refs.

(8) a. īḍ-á́-ṃ ca-kr-**e**
√-VN PF-DO-3SG.PF.**NONACT**
"He/she has praised" (Vedic deponent PPC)

b. de-deg-**mén-** ei-mi
PF-√-PTCP.**NONACT** BE-1SG.PRES.ACT
'I have accepted' (AG deponent PPC)

Interim summary

- Even though the verbal systems of Vedic and Ancient Greek are very similar (due to inheritance) and even though the same feature is involved in triggering periphrasis, perfect (aspect?), the attested patterns differ:
- Greek permits the formation of synthetic perfects to nominal bases, Vedic requires the PPC (in all "secondary" verb forms)
- Vedic expresses (active/nonactive) Voice on the light verb/aux. in the PPC, Greek on the nonfinite element (= participle).

Periphrastic constructions cross-linguistically

- Cross-linguistically, periphrasis often revolves around aspectual features (e.g., progressive/imperfective vs. perfective)
  - (and/or: Voice)
  - E.g., English, German, Basque, Turkish, Arabic, Japanese ... (Fenger 2020)
- Assuming a more or less universal hierarchy of functional projections within the "verbal spine" (e.g., Wurmbrand 2015; Ramchand 2008, 2018; Harley 2017), (9a), this means that verbal morphology related to functions up to Asp usually ends up on the nonfinite form, while Tense & AGR morphology is expressed on the auxiliary, (9b)

(9) a. $\sqrt{}$–*v*/lex.Asp–**Voice**-**Asp**$_{[\pm \text{PFV}]}$–T/AGR (synthetic verb)
b. [$\sqrt{}$–*v*/lex.Asp–**Voice**-**Asp**$_{[\pm \text{PFV}]}$]$_{\text{NONFIN.}}$ T/AGR$_{\text{AUX}}$ (periphrastic verb)

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- Ancient Greek conforms to this pattern

Periphrastic constructions cross-linguistically: Latin

- Periphrasis caused by two features: Latin
- In Latin, the present active, present passive, and perfect active are synthetic while the perfect passive is analytic, (10).
- **Voice** is expressed on the endings in the pres.act., pres.pass. & perf.act., but on the participle (together with **Asp**, hence **Voice/Asp**) in the perf.pass.

(10) PPCs in Latin

present active	present passive	perfect active	perfect passive
am-**ō**	am-**or**	amā-**v**-**ī**	amā-**t**-us/a sum
'I love'	'I am loved'	'I loved'	'I was loved'

- The **"overflow pattern"** (Bjorkman 2011): An auxiliary is required only if two particular contexts are *combined*, in this case passive (Voice) and perfect (Asp).

Background: auxiliaries and synthetic verbs

- In Distributed Morphology (DM; word formation = syntax): Synthetic verbs are built by combining the root with the different functional heads directly ("head movement")
- *Markedness* of certain features can block this operation, i.e., they can act as intervenors
  - Markedness = *semantic markedness*: both the marked and the unmarked (or elsewhere) value of a given feature can be morphologically realized, but only the marked value will be relevant to agreement.
  - Markedness varies cross-linguistically
- Marked features interrupt agreement & block movement
- This blocking leaves inflectional features "stranded", triggering the insertion of auxiliaries → auxiliaries are "last resort", they don't carry meaning.
  - BE = default auxiliary (Bjorkman 2011)

Illustration: the Latin perfect

Example: Deriving the synthetic perfect & present passive and the periphrastic perfect passive in Latin.

- Marked feature on Asp: [*i*INFL:**PFV**], marked feature on Voice: [*i*INFL:**PASS**].

(11) Lat. perf. act.: *amā-v-ī* 'I have loved' (modified from Bjorkman 2011: 72)

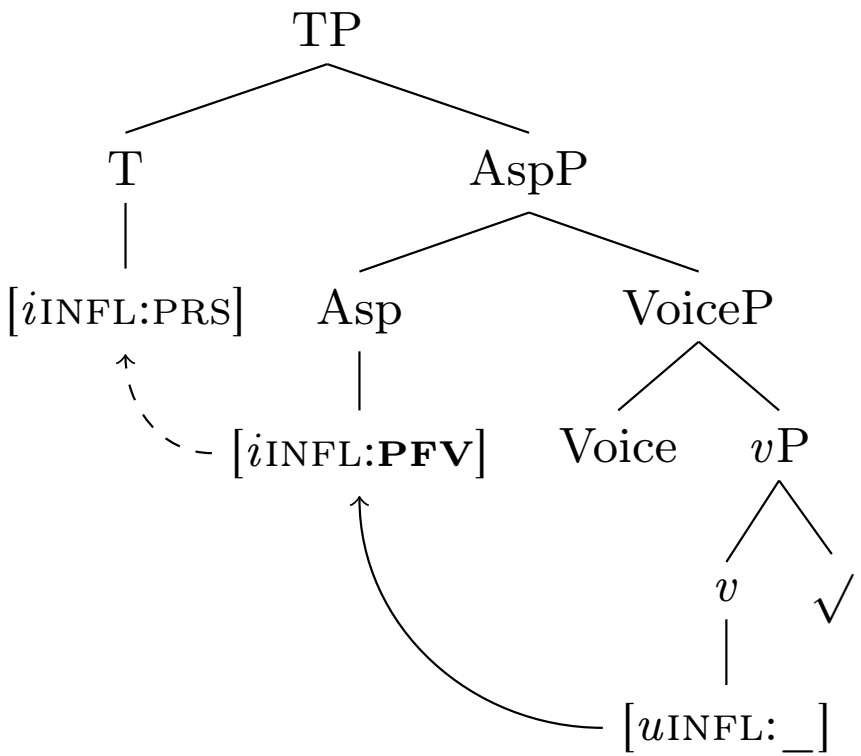
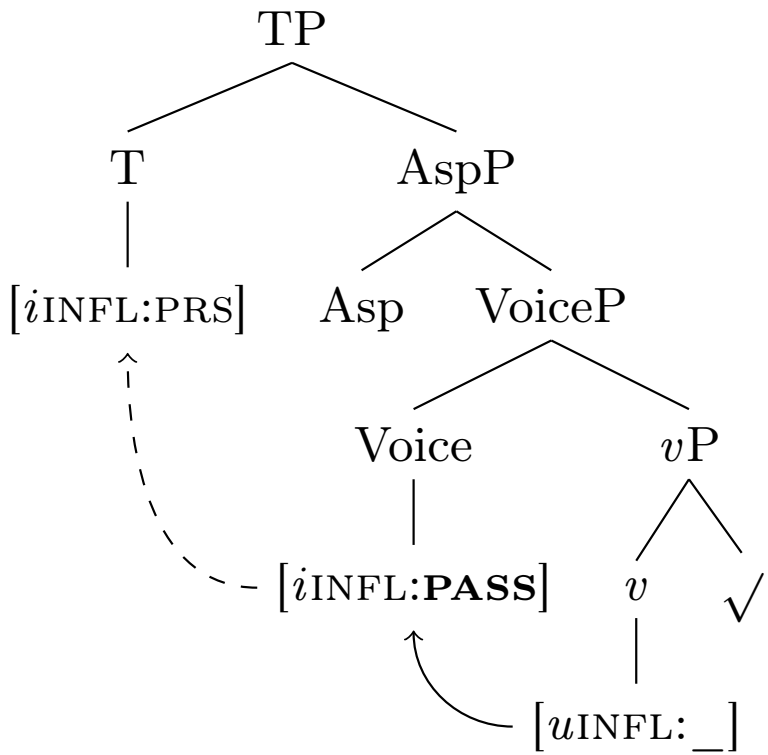


Illustration: the Latin present passive "overflow pattern"

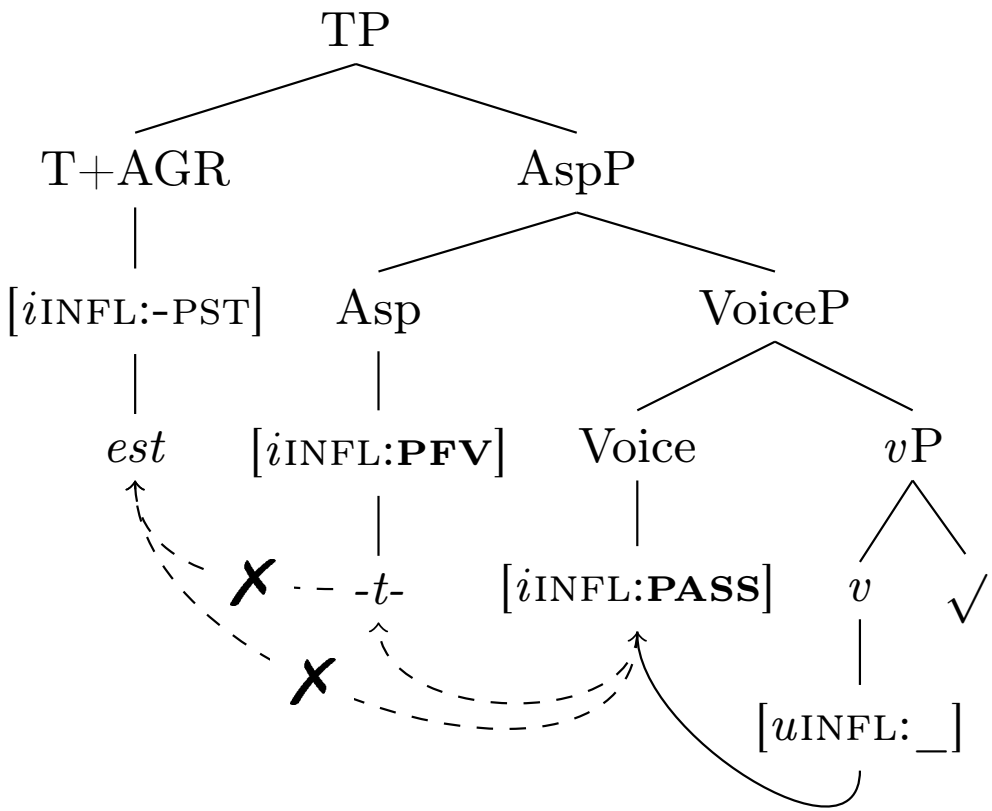
(12) Latin pres. pass.: *am-or* 'am loved' (modified from Bjorkman 2011: 72)



- The verb agrees with the marked feature [PASS] on Voice and moves to Voice (bold arrow).
- No marked feature on Asp: the verb agrees with [*i*INFL] on T → no features are stranded.

Illustration: the Latin perfect passive

(13) Latin perfect passive: *amā-t-us est* 'he was loved':



- The higher marked feature acts as an intervenor for agreement of the lower marked feature with T

The AG perfect

- To apply this framework to AG and Vedic, we need a feature that uniquely distinguishes the perfect stem from the aorist and present stem.
- Since the Ancient Greek (Homeric/pre-Classical) synthetic perfect, and especially the perfect participle, are usually characterized as *resultative* (Schwyzer 1939: 768, Haspelmath 1992, Bentein 2012a, 2012b, 2013, Napoli 2017), I assume that the feature that distinguishes the pre-Classical synthetic perfect from the aorist is **[RES]**.
- This feature became grammaticalized in the PPC, while the *synthetic* perfect became perfective and merged with the aorist (= Modern Greek)
  - Differently Reed (2014): perfect: [-aor,+perf]; Schreiner (2021): [+perf]

→ the Greek PPC effectively *replaces* the synthetic perfect in its resultative use

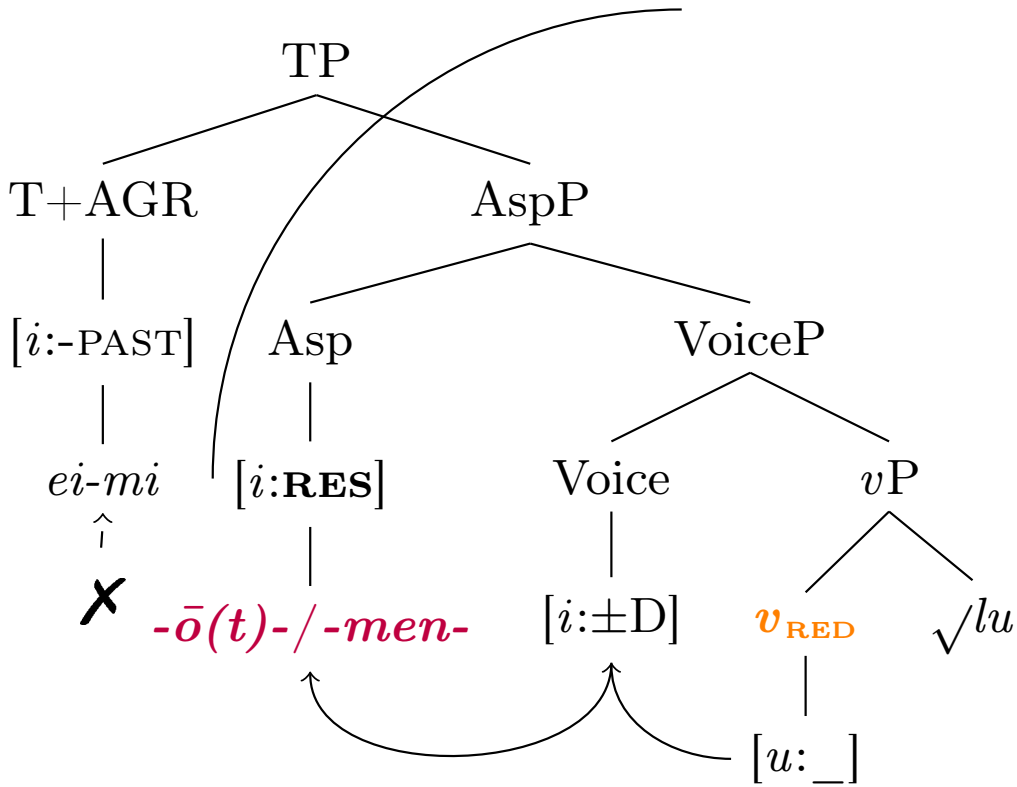
- Which suggests that the feature [RES] was reanalyzed in some fashion between Homeric and Classical Greek:
  - From an unmarked to a marked feature, preventing the hitherto synthetic form from appearing?
  - From a feature on v to a feature on Asp?
  - Both?

The AG periphrastic perfect indicative

(14) AG perfect active/nonactive indicative:

***le*-*lu*-*k*-*ō(t)*-/-*men*-** *ei*-*mi*

PF-release-PF-PTCP.ACT/PTCP.NONACT BE-1SG.PRES.ACT



- Unlike in Latin, presence of marked feature [RES] *always* triggers realization of $\sqrt{}$-v-Voice-Asp as nonfinite form ("phase head", Fenger 2020)

The Vedic perfect

- The Early Vedic reduplicated perfect has several readings, including resultative, universal, and past perfective (e.g., Kümmel 2000; Dahl 2009, 2010, 2011, 2014) → (resultative/anterior) Asp
- It later turns into an aspectually neutral simple past tense in late Vedic/Classical Sanskrit (Dahl 2009, 2014)
- But in order to reduplicate, it needs to be structurally "close" enough to the root (cf. Schreiner 2021 for the same problem in Greek) → if *overt* stem-forming morphology (v) intervenes, Asp[RED] cannot access the root for reduplication → "overflow pattern"
- Crucially, this means that the periphrastic perfect forms are predicted to have the same range of meanings as the synthetic forms in Vedic under this analysis (anterior/past), while their meaning differs from that of the synthetic perfect in AG (resultative vs. perfective/past)

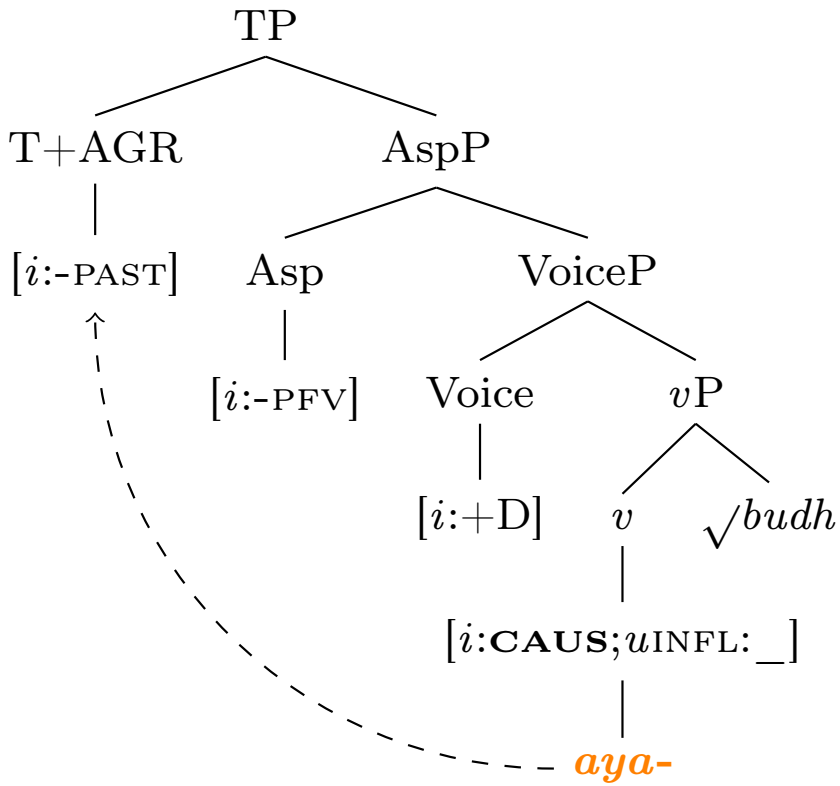
Analysis: The Vedic periphrastic perfect

Proposal: Like in Greek, the Sanskrit periphrastic perfect appears when movement of the verbal stem is restricted because of intervening features.

- Unlike in Greek, in Vedic the perfect feature alone cannot be the problem → the auxiliary itself *is* structurally a synthetic perfect.
- The fact that perfects from denominal, causative, desiderative ... stems turn up as periphrastic constructions suggests that the problem originates "lower" in the structure
- If "marked" v (causative, etc.) blocks movement, a higher marked feature – in this case, [PERF] on Asp – will act as an intervenor and trigger periphrasis → **overflow pattern**

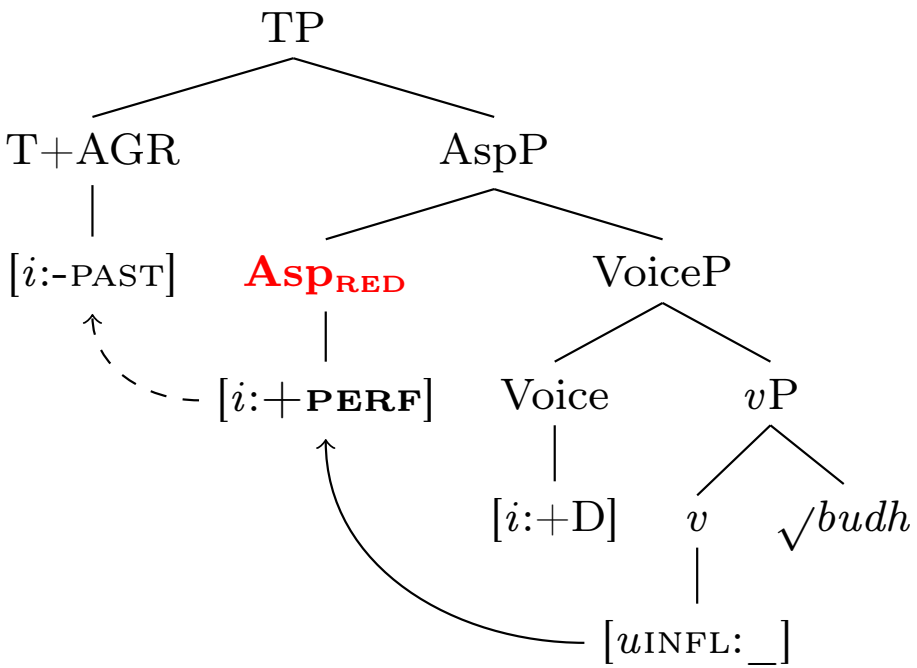
Synthetic causative

(15) *bodh-**aya**-ti* 'causes to wake up; awakens'
$\sqrt{}$-CAUS-3SG.PRES



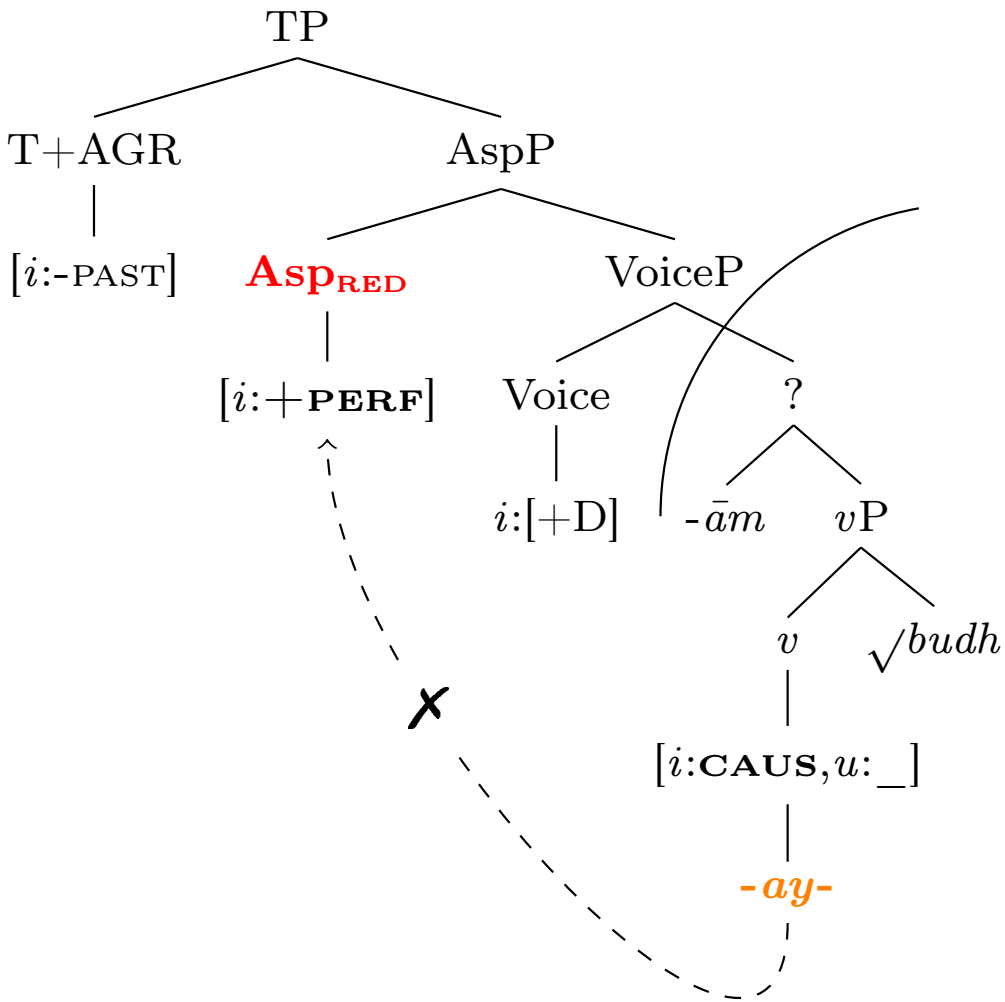
Synthetic perfect

(16) ***bu****-bodh-a* ‘has woken up’
PF-√-3SG.PF



The periphrastic perfect

(17) *bodh-**ay**-ām **ca**-kār-a* 'has caused to wake up'
√-CAUS-VN PF-DO-3SG.PF



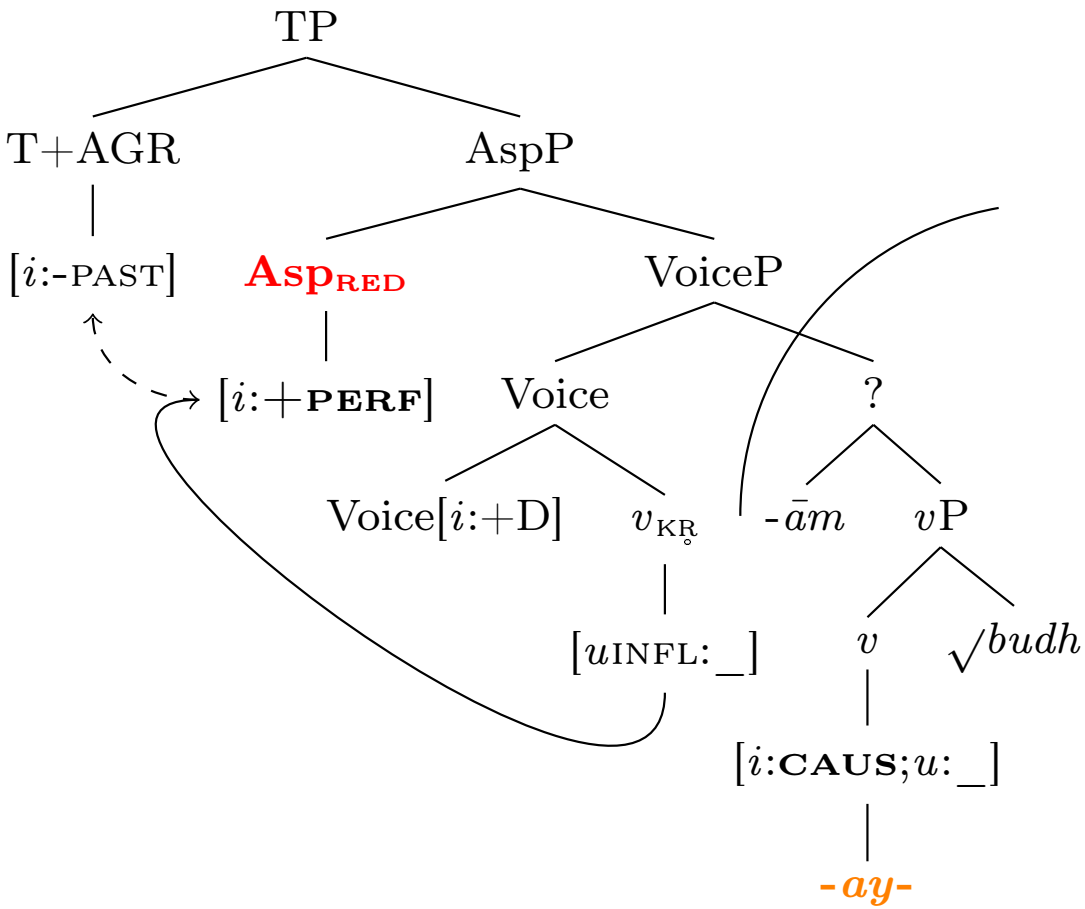
- Mystery projection headed by -*ām* blocks realization of Asp on verbal stem

The periphrastic perfect

- The periphrastic perfect goes back to *kr̥* 'do, make' + verbal noun (the latter being the direct obj. of *kr̥*) → ***do*-support**, not default AUX
- "Mainstream DM" (e.g., Embick & Noyer 2001): *do*-support arises because of a structural adjacency requirement of T and *v*.
  - But cf. Bjorkman 2011, Arregi & Pietraszko 2021, Fenger 2020 ...
- Bjorkman 2011: DO = "elsewhere realization of *v*" when *v* is not realized together with the verbal root itself.
- if structural adjacency (or lack thereof) is the issue, then maybe what prevents the root/the stem from being realized together with higher verbal projections is the *originally nominal* suffix -*ām*.
- Proposal: "*kr̥*-support" adjoins to Voice because of an adjacency requirement of *v*+Voice

The periphrastic perfect & KṚ-support

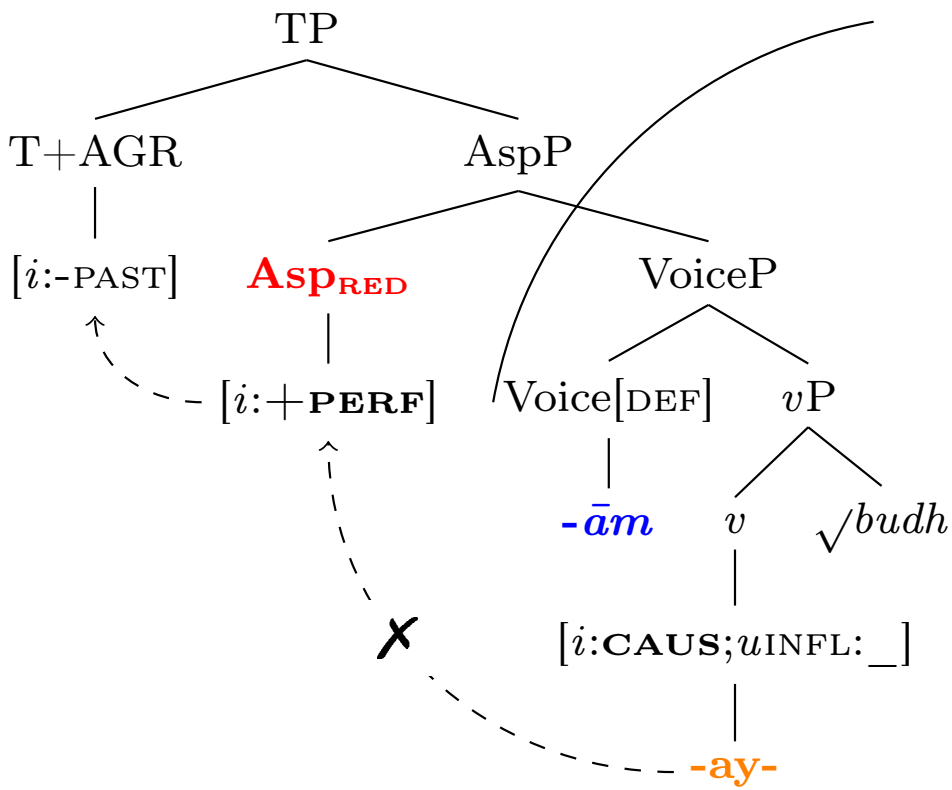
(18) *bodh-**ay**-ām **ca**-kār-a* ‘has caused to wake up’
√-CAUS-VN PF-DO-3SG.PF



The periphrastic perfect: BE-aux

- Replacement of KR̥ by AS: reanalysis of (originally nominal) -*ām* as realization of default value of Voice (Voice:DEF; cf. Grestenberger 2022a)
- adjacency requirement satisfied, KR̥-support no longer necessary
  - Cf. Ittzés (2022a): *kr̥* lost its agentivity/+control feature as it grammaticalized into an auxiliary and was then replaced by *as*.

(19) *bodh-**ay**-**ām** **ā**s-a* 'has caused to wake up'
√-CAUS-VN PF.BE-3SG.PF



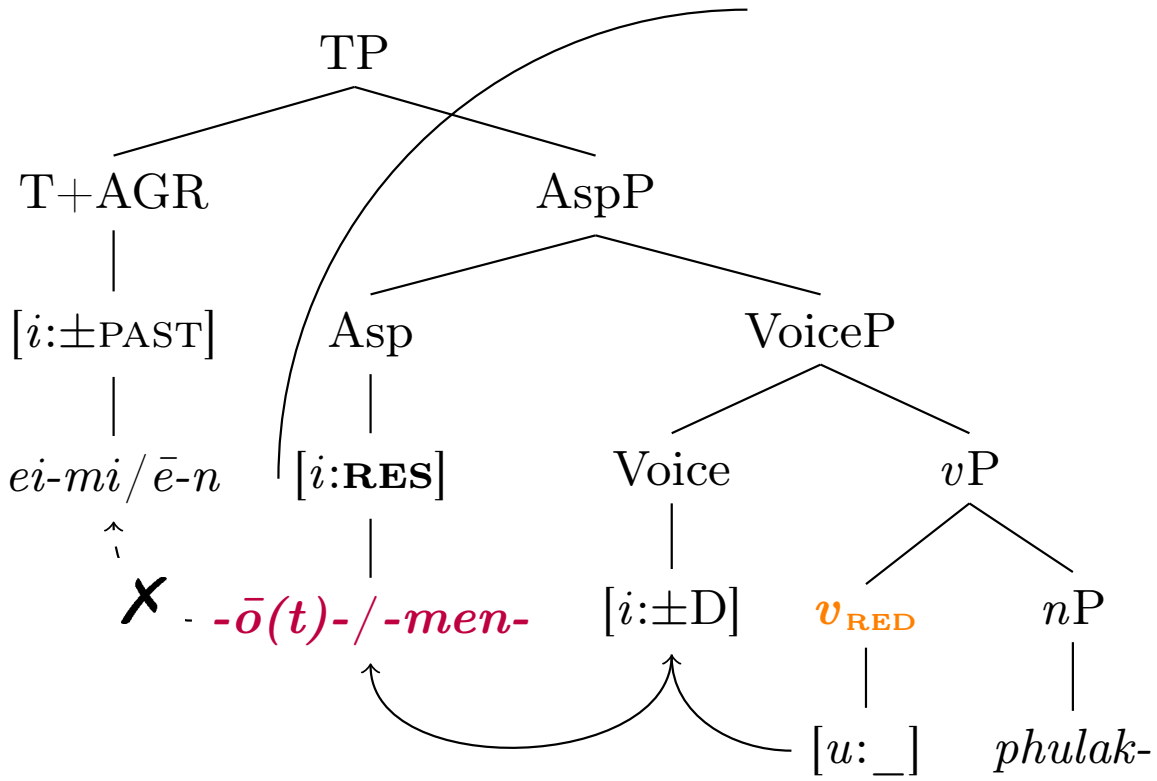
Summary: PPCs, revised

(20) *v*, **Voice**, **Asp**

		nonfinite	finite/AUX
Latin		$\sqrt{}$am**ā**-**t**-us/a	sum
		love-PTCP.PF.PASS-NOM.SG.M/F	BE.PRES.1SG.ACT
AG		**le**-$\sqrt{}$lu-**mén**-os/ē	ei-mí
		PF-release-PTCP.MID-NOM.SG.M/F	BE.PRS-1SG.ACT
Ved.	a.	$\sqrt{}$i<**n**>dh-ā́m	**ca**-kr-**e**
		ignite<V.PRS>-VN	PF-DO-3SG.MID.NONPAST
	b.	$\sqrt{}$i<**n**>dh-**ā́m**	**ās**-a
		ignite<V.PRS>-VN	PF.BE-3SG.ACT.NONPAST

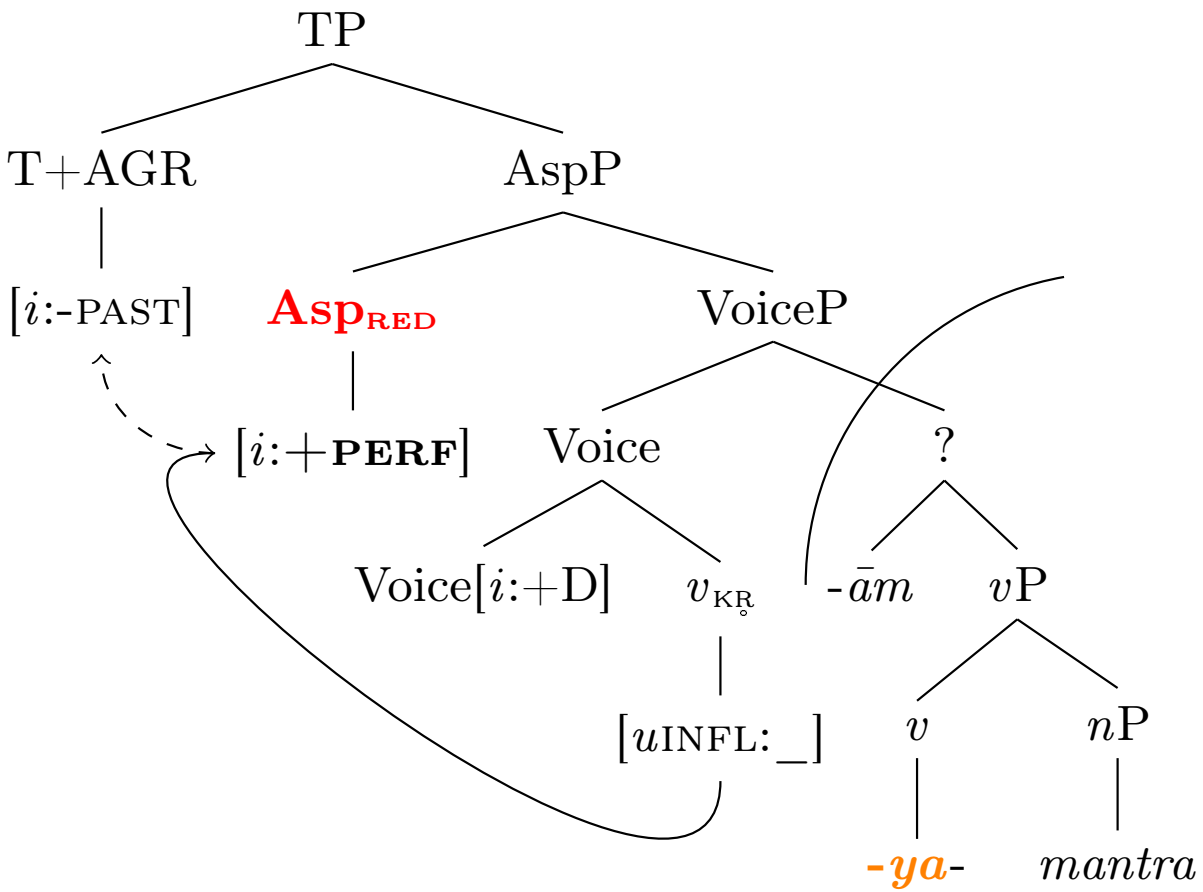
- Lat., AG: Ptcp. spells out Asp (AG: conditioned by Voice[±D])
- Vedic a.: VN marks phase boundary, spells out $\sqrt{}$-*v*-
- Vedic b.: Reanalysis of VN/-*ām* as realization of Voice[DEF]

Denominal verbs, Greek



- RED feature in the same domain as & linearly adjacent to the nominal stem — reduplication is possible.

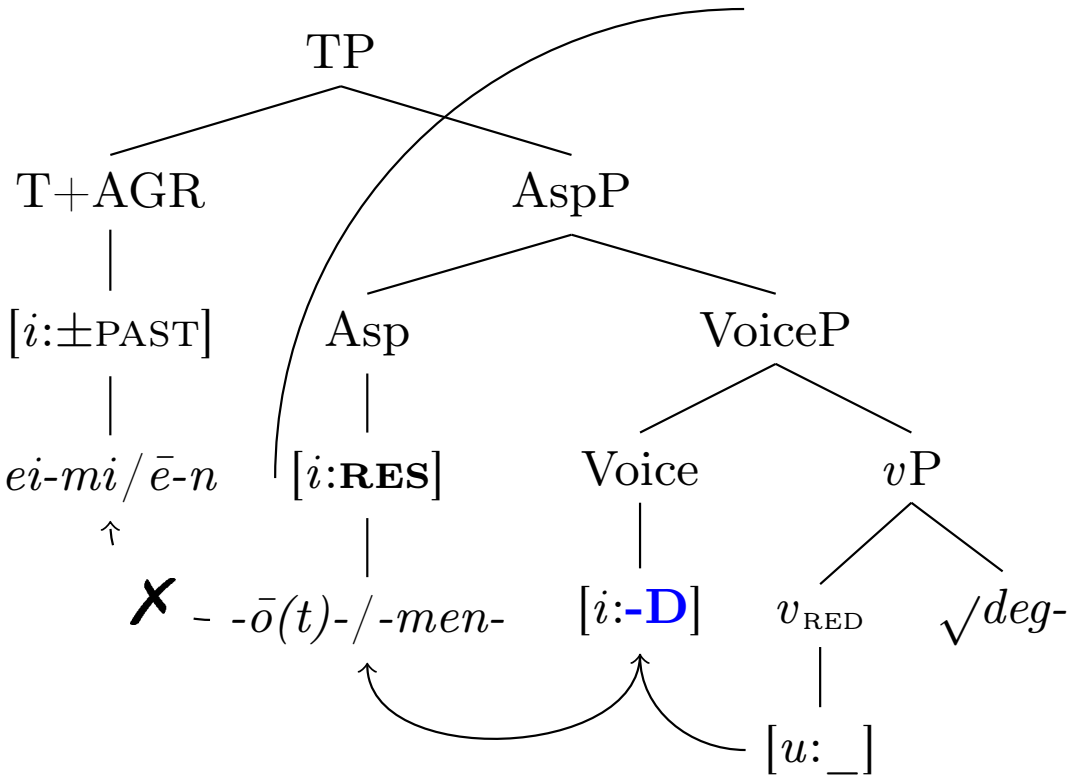
Denominal verbs, Vedic



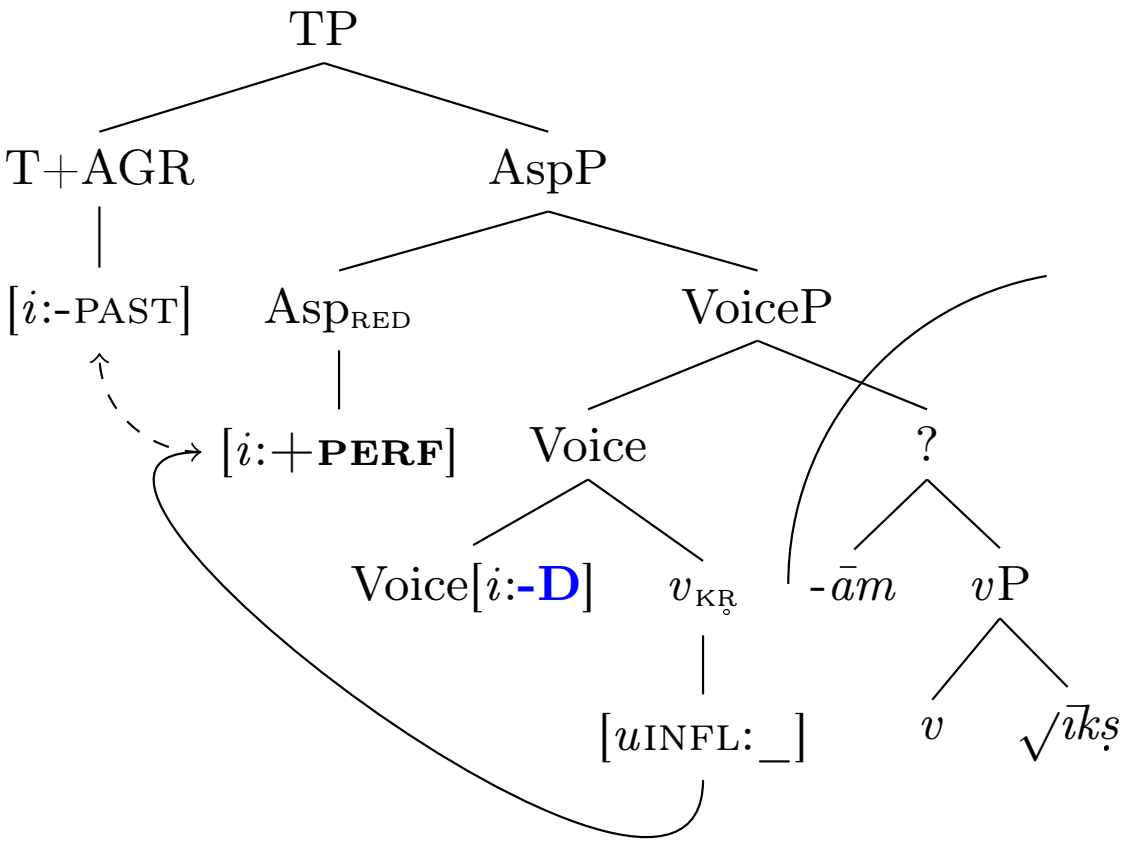
- RED feature not in the same domain as nominal stem, overt v intervenes — reduplication of stem not possible.

Deponent verbs, Greek

- Middle morphology (including on deponents) is defined here as a property of Voice[±D] (= ± external argument; cf. Alexiadou et al. 2015; Grestenberger 2018; Kastner 2020 etc.)
- In Greek, the feature on Voice[-D] ("nonactive") is in the same structural position as in the finite forms — nonactive morphology surfaces on the participle



Deponent verbs, Vedic



- Voice[-D] is not in the same structural position as in the finite forms because of the intervening (formerly nominal) projection headed by -$\bar{a}m$ → Voice[-D] is expressed via KR-support

Implications: light verbs vs. auxiliaries

- $\sqrt{kr̥}$ is used as a light verb in a variety of contexts (not just perfect) already in Early Vedic (Ittzés 2015, 2022a, 2022b)
  - E.g., *vidắm akran* 'they knew' (3pl. aor.)
- Light verb constructions are also widespread in Modern IA languages (cf. Hook 1993; Butt 1995, 2010; Butt & Lahiri 2013 etc.)
- Whether light verbs can grammaticalize into auxiliaries is controversial
  - NO: Bowern 2008; Butt 2010; Butt & Lahiri 2013
  - YES: Hook 1991; Slade 2013; Ittzés 2022a
- In the framework used here, a light verb is an element that realizes (different types of) v/Voice (cf. Hale & Keyser 1998, 2002; Butt 2010; Butt & Lahiri 2013; Folli & Harley 2004, 2007, etc.)
- Auxiliaries: base-generated in Asp or T; BE = default aux. (Bjorkman 2011)
- No reason why light verbs should not be able to become reanalyzed as T-elements, and the fact that $\sqrt{kr̥}$ is used with non-agentive intransitive verbs in the Vedic PPC is interpreted as evidence of such a reanalysis by Ittzés (2022a)
- But the fact that it then immediately gets replaced by the (default) Aux $\sqrt{as}$ suggests that it is never actually treated as base-generated in Asp/T

Conclusion

- The Vedic PPC suppletes the synthetic perfect in specific morphosyntactic & -phonological environments in a cross-linguistically unusual way
  - The interaction with lexical aspect/v is unexpected, cf. Fenger (2020)
- Formal comparison with Greek & Latin PPCs shows that the differing distribution follows from language-specific changes in the semantics of the perfect in these languages & **markedness** of the aspectual features involved
  - Latin: Voice[-D] & Asp[PFV] are marked
  - Greek: Asp[RES] is marked
  - Vedic: "secondary" v + Asp[PERF] are marked
- Markedness of features follows from independently observed properties of the verbal systems of these languages
  - E.g., changes in the semantics of the perfect from Homeric to Classical Greek; behavior of "primary" vs. "secondary" verb stems in Sanskrit, etc.
- Denominal verb formation and the behavior of deponent verbs allow us to pin down exactly where in the "verbal spine" these languages differ
- A theoretical approach to this variation can help detect universals and specifics in complex verb formation/periphrasis cross-linguistically

Thank you!

FWF V850-G “The diachrony of verbal categories and categorizers”

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