Right in the middle: Two voices on Hittite and Indo-European morphosyntax

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What is the middle voice?

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Two different (overlapping) answers in the literature:

1. **Meaning/function**: describes a type of event that is "between" active and passive (affected subject; reduced transitivity; generic or "dispositional reading")
2. **Form**: a type of morphological marking different from whatever marking is used for active (and passive)

What is the middle voice?

Examples for 1 (function):

(1)   English: *Bureaucrats bribe easily*

(2)   Hebrew (Alexiadou and Doron 2012):

  migdal ayfel lo   nir'a   mi-šam
  tower   Eiffel not see.SMPL.MID from-there

  "The Eiffel tower was not visible from there/was not seen from there"

▶ Stroik 1992, Ackema and Schoorlemmer 1995, Steinbach 2002, Lekakou 2005 ...

What is the middle voice?

Example for 2 (form):

(3) Vedic: Active vs. middle endings (athematic present/nonpast)

	Active			Middle		
	Sg.	Dual	Pl.	Sg.	Dual	Pl.
1	*-mi*	*-vas*	*-masi*	*-e*	*-vahe*	*-mahe*
2	*-si*	*-thas*	*-tha*	*-se*	*-ethe, -ā́the*	*-dhve*
3	*-ti*	*-tas*	*-nti*	*-te, -e*	*-ete, -ā́te*	*-nte, -re*

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▶ In the following, I'll focus on the second use ("form") and refer to this morphology as **nonactive**, to make it more distinct from the first use ("function").

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▶ In the following, I'll focus on the second use ("form") and refer to this morphology as **nonactive**, to make it more distinct from the first use ("function").

▶ But whichever terminology is chosen, it's important to distinguish between these two uses (cf. Zúñiga and Kittilä 2019).
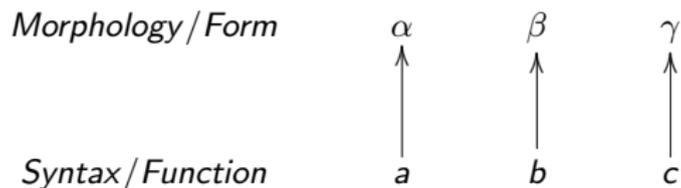
Form vs. function

Why dissociate form from function?

Form vs. function

Why dissociate form from function? Because (as so often in morphology) there is no
1:1 mapping between them.

- ▶ Form (i.e., the active/nonactive endings) = essentially binary, function: several
  (> 2) different **canonical** and **noncanonical** contexts in which each of these
  can occur.

(4)   Syntax/Morphology: canonical contexts, simple (1:1) form-meaning mapping

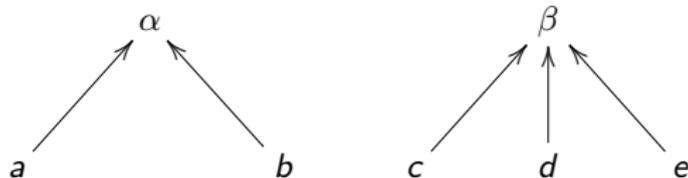| *Morphology*/*Form*	α	β	γ
	↑	↑	↑
Syntax/*Function*	*a*	*b*	*c*

Simple (too simple) example: Lat. *am-ō* 'I love' (syn: act, morph: act) — *am-or* 'am
loved' (syn: pass, morph: pass)

Form vs. function

(5) Syntax/Morphology: canonical contexts, one-to-many mapping ("syncretism")
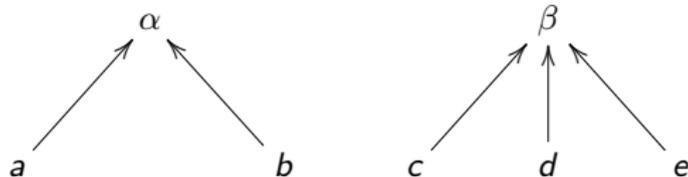
Form vs. function

(5)   Syntax/Morphology: canonical contexts, one-to-many mapping ("syncretism")

Morphology/Form α β

Syntax/Function a b c d e

▶ **"Voice syncretism"** (Embick 2004, Oikonomou and Alexiadou 2022).

Canonical functions of nonactive/"middle" morphology

(6)   Canonical contexts of nonactive morphology
    a.   (some classes of) anticausatives/inchoatives
    b.   (inherent/natural) reflexives and reciprocals
    c.   autobenefactive verbs (selfbenefactives, "indirect reflexives")
    d.   dispositional or generic constructions (i.e., "middle constructions" of the type Engl. *bureaucrats bribe easily*)
    e.   passives ("mediopassives")

E.g., Klaiman 1991, Kemmer 1993, Embick 1998, Kaufmann 2007, Alexiadou and Doron 2012, Alexiadou 2013, Zombolou and Alexiadou 2014, Alexiadou et al. 2015, Inglese 2021, etc.

Canonical functions of nonactive/"middle" morphology

(7)   Example: canonical functions of non-active morphology: voice alternations in
       Ancient Greek

Function	Non-active	Active
Anticausative	*daío-mai* 'burn' (itr.)	*daí-ō* 'burn (sth.)'
Reflexive	*loúo-mai* 'wash myself, bathe'	*loú-ō* 'wash (sth.)'
Autobenefactive	*phéro-mai* 'carry sth. for myself; win'	*phér-ō* 'carry sth.'
Passive	*theíno-mai* 'am slain'	*theín-ō* 'slay'

▶ "Middle voice" (def. as nonactive morphoplogy) = the morphology found in
   alternating verbs like (7) + middle-only verbs (*media tantum*).

Can we reconstruct a middle voice for PIE?

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Yes.

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Yes. (in use 2, form):

(8) Primary athematic active & middle endings, "new model" (dual excl., Jasanoff 2003, Fortson 2010: 92–4)

	Active		Middle	
	Sg.	Pl.	Sg.	Pl.
1	*-m-i	*-me-	*-h_2e-r	*-med$^h h_2$ (?)
2	*-s-i	*-te(-)	*-th$_2$e-r	*-d^{h}u̯e- (?)
3	*-t-i	*-(é)nt-i	*-o-r, (*-to-r)	*-ro(-r), (*-nto-r)

▶ Status of dentalless middles (3Sg. *-o(-r))/"stative"? Cf. (9) (& Grestenberger 2019b).

▶ Distribution/canonical contexts for exponents "α" (active) and "β" (nonactive/middle)?

(9) Hittite transitive "statives"
ḫatta(ri) 'slits; sacrifices', ḫuett(i)a(ri) 'plucks, pulls', iškallā(ri) 'tears, slits', paḫša(ri) 'protects', paršiya(ri) 'breaks', tuḫša(ri) 'cuts off'

Anticausative

(10)   nonactive (alternating) anticausatives/change-of-state verbs (causative &
       factitive alternation verbs)

	Anticausative (nonact.)		Causative (act.)	
Ved.	*várdha-te*	'grows'	*várdha-ti*	'grows sth.'
	prátha-te	'becomes broad'	*prátha-ti*	'makes broad'
AG	*trépho-mai*	'grow'	*tréph-ō̄*	'grow, nourish'
	méldo-mai	'become soft'	*méld-ō̄*	'make soft'
TB	*keṣ-tär*	'become extinguished'	*keṣä-ṃ*	'extinguishes' (tr.)
	namṣ-tär	'bends' (itr.)	*namṣä-ṃ*	'bends' (tr.)
Hitt.	*karap-tari*	'rises'	*karap-zi*	'plucks, raises'
	nē̆-ari	'turns' (itr.)	*nā-i*	'turns' (sth.)

Reflexive & reciprocal

(11)   (inherently) reflexive & reciprocal verbs

	Refl./recip. (nonact.)		Act.	
Ved.	*páva-te*	'purifies oneself'	[*puná-ti*]	'purifies sth.'
	yúdhya-nte (3pl.)	'fight (each other)'	[*yúdhya-nti*]	'fight sbdy.'
	śumbhá-te	'adorns oneself'	*śumbhá-ti*	'adorns sth.'
Hitt.	*(za) arr-atta(ri)*	'washes oneself'	*ār-i*	'washes sth.'
AG	*loúo-mai*	'wash, bathe'	*loú-ō*	'wash sth.'
	mákho-ntai (3pl.)	'fight (each other)'	—	

Autobenefactive

(12)   Autobenefactive verbs

	Autobenefactive (nonact.)		Active	
Ved.	*yája-te*	'sacrifices sth. for oneself'	*yája-ti*	'sacrifices sth.'
	bhára-te	'carries sth. for oneself'	*bhára-ti*	'carries sth.'
AG	*phéro-mai*	'carry sth. for myself; win'	*pher-ō̄*	'carry sth.'

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▶ Not a clearly distinguishable (oppositional) context outside of Greek & Indo-Iranian, so probably not reconstructable for PIE.

Passive

(13) Passive verbs

	Passive (nonact.)		Active	
Ved.	*stáv-e*	'is praised'	*stáu-ti*	'praises'
Heth.	*ḫalziy-a(ri)*	is called'	*ḫalzā-i*	'calls'
	tamaš-ta(ri)	'is oppressed'	*tamaš-zi*	'oppresses'
	warnu-ta(ri)	'is burned'	*warnu-zzi*	'burns (sth.)'
AG	*bállo-mai*	'am struck'	*báll-ō̃*	'strike, hit'
TB	*yamas-trä*	'is done'	*yamaṣṣ-äṃ*	'does'
Lat.	*capi-or*	'am seized'	*capi-ō̃*	'seize'

Dispositional middles?

- ▶ Is this a distinct use of the (P)IE middle endings, or can it be reduced to something else? (e.g., a generic passive)
- ▶ What (if anything) is the relationship between this construction and the impersonal passive (e.g., Lat. *itur* 'one goes')? Cf. Kulikov 2011.

(14)   Vedic, RV 6.10.4d

     śocíṣā   *dadṛś-e*   *pāvakáḥ*
     glow.INSTR see.PERF-3SG.PERF.NACT pure.NOM

     "the pure one is visible with his flame." (JB)

Theoretical perspectives on the middle voice & the role of IE data

Theoretical perspectives on the middle voice

- ▶ Finding a uniform/unifiable semantic content or "core function" of middle-marked verbs is difficult and subject to much cross-linguistic variation
- ▶ The typological literature usually attempts to establish one or two "core functions" (or semantic primitives), from which several peripheral or non-core functions can be derived
    - ▶ E.g., "relative elaboration of events" between one- and two-participant events (Kemmer 1993, 1994)
    - ▶ "Subject-affectedness" and/or reflexivity (e.g., Zúñiga and Kittilä 2019)
- ▶ Formal/generative approaches either treat middle morphology as argument-binding or argument-absorbing morphology (e.g. Rivero 1990, Manzini et al. 2015) or as *postsyntactic* markers of particular argument structure configurations (e.g., Embick 2004, Alexiadou et al. 2015, Schäfer 2017, Grestenberger 2018, Kastner 2020).

Theoretical perspectives on the middle voice

IE languages (especially Latin, Modern Greek, and Albanian) have played an important part in the latter type of approach because of the large number of non-alternating verbs (*actīva tantum* "active only" and *media tantum* "middle only" verbs) that are difficult to explain as "argument reduction":

(15)   Alternating verbs, *actīva tantum*, *media tantum* in Latin

a. Active only	b. Alternating		c. Nonactive only
	Active	Nonact./Passive	
e-ō	*am-ō*	*am-or*	*hort-or*
'go'	'love'	'am loved'	'exhort'
rube-ō	*dūc-ō*	*dūc-or*	*fru-or*
'be red'	'lead'	'am led'	'enjoy'
mane-ō	*mone-ō*	*mone-or*	*mori-or*
'stay'	'admonish'	'am admonished'	'die'

Alternating vs. non-alternating verbs

"*Tantum*"-behavior is by no means a marginal phenomenon in the voice system of these languages, as shown by Zombolou and Alexiadou 2014 for Modern Greek, and cf. (16) (from Grestenberger Forthcoming):

(16)   P-, Ā-, and U-verbs in ancient IE languages

	Classical Skt.		Homeric Gk.		Toch. B		Toch. A	
	#	%	#	%	#	%	#	%
P (only active)	1,038	51.9	129	36	150	28	148	33.9
Ā (only nonact.)	485	24.2	89	25	103	19.2	104	23.8
U (alternating)	478	23.9	141	39	283	52.8	185	42.3
Total	2,001		359		536		437	

Alternating vs. non-alternating verbs

▶ In approaches in which voice morphology is assumed to "do something" (e.g., reduce argument structure, add a semantic component of affectedness, etc.), "*tantum*-behavior" is a problem.

▶ Especially because there is no uniform semantics for, e.g., *media tantum*: they include agentive transitive verbs (**deponents**, e.g., Lat. *hortor*) as well as intransitive inchoative and stative verbs (e.g., Lat. *morior* 'die')

▶ A possible way out is to analyze *tantum*-verbs as lexically specified for [±active] or [±] passive (e.g., Kiparsky 2005, Weisser 2014) or active/nonactive morphology as a "paradigm-dependent morpheme" (Stump 2007) whose semantic content depends on whether or not it alternates within a paradigm.

Alternating vs. non-alternating verbs

▶ But such approaches effectively reduce a rather large chunk of voice-marking in these languages to lexically determined conjugational class morphology (cf. Grestenberger 2019a, Forthcoming for further discussion).

▶ ... and render the generalizations concerning the semantic subclasses of *media tantum* obsolete (e.g., Kemmer 1993, Zombolou and Alexiadou 2014, Inglese 2020...) → see Guglielmo's slides.

Theoretical perspectives II: Which theoretical framework best describes middle(-marked) verbs?

Which theoretical framework best describes middle(-marked) verbs?

▶ Any framework that treats (morphological) form as dissociated from
   (syntactic-semantic) function, or:
▶ ... that allows for a flexible mapping of form ↔ function
▶ E.g., Paradigm Function Morphology (PFM), Nanosyntax, **Distributed
   Morphology (DM)**
▶ Crucial "ingredients":
  ▶ Not all morphological exponence needs to be semantically contentful, i.e.,
     morphemes can be "Elsewhere" ("Pāṇini's Principle", Kiparsky 1973)
  ▶ The framework should allow for "mismatches" between form & function (→
     deponents)
  ▶ ... as well as syncretism (different syntactic contexts map to one and the same
     form)

Syncretism and ambiguity

Example: passive/anticausative syncretism:

(17)   Vedic, RV 7.8.1a:

         indhé   *rā́jā*   *sám* *ar_iyó*   <u>*námobhir*</u>
         ignite.3SG.PRS.NACT   king.NOM   PRVB   comrade.NOM   reverence.INSTR.PL

▶ Kulikov 2006: "With reverence, the compatriot king (= the fire) **is igniting/is kindled**" (anticaus./pass.)

▶ Jamison & Brereton 2014: "Our compatriot king **is kindled** by our homage" (pass.)

▶ Geldner 1951: "Der König und Herr **wird** unter Verneigung **entzündet**" (pass.)

▶ Renou 1955–67: vol. XIII: "Le roi, le noble (maître), **est enflammé** avec des hommages" (pass.)

Syncretism and ambiguity

(18) Vedic, RV 7.8.1d:

  ā́   agnír   ágra   uṣásā̄m   **aśoci**
  PRVB Agni.NOM crack.LOC dawn.GEN.PL shine.3SG.PASS.AOR

▶ Jamison & Brereton 2014: "Here, at the head of the dawns, Agni **has been set ablaze**." (pass.)

▶ Geldner 1951: "Agni **ist** noch vor den Morgenröten **entflammt**." (anticaus.)

▶ Renou 1955–67: vol. XIII: "Agni **a flambé** à la pointe des aurores." (anticaus.)

Syncretism and ambiguity

... and we see the same ambiguity in modern languages with this type of syncretic voice system, e.g.:

(19)   Modern Greek (Alexiadou and Doron 2012):

     *i   times miothikan   **apo** to diefthindi*/**me** *tis nees ekseliksis*
     the prices lowered.NACT by   the director/with the new developments

     "The prices **were lowered** by the director/ **went down** because of the new developments"

▶ Disambiguation through different prepositions for CAUSE vs. AGENT roles

▶ ... but what if the same preposition/case marking is used for CAUSE, INSTR and AGENT?

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Syncretism and ambiguity

... and we do encounter this problem in some modern languages as well:

(20)   Albanian (Kallulli 2007):

*Dritar-ja   u   kris   **nga**   presion-i/   Xhon-i/*
Window-the NONACT crack.AOR.3SG from/by pressure-the John-the
libr-i
book-the

"The window cracked from the pressure / was cracked by John/the book"

→ Cause(r), agent, instrument take the same preposition.

Formal analysis

A promising approach: define a syntactic-semantic condition in which
nonactive/"middle" morphology appears and treat active as "Elsewhere".

▶ The condition has to be fairly broad because of the many different environments
   in which we encounter this morphology → "no external argument DP",
   [-ext.arg.]/[-D].

(21)   Spell-Out condition on nonactive morphology
        Voice → Voice[NonAct]/_ No DP specifier

(Embick 1998, 2004, Alexiadou 2013, Kallulli 2013, Alexiadou et al. 2015, Grestenberger
2018, 2021, Oikonomou and Alexiadou 2022...)

(22)   Distribution of active vs. nonactive/middle morphology:

	+ext.arg./+D	-ext.arg./-D
Voice	ACT	NONACT
––	n/a	ACT

Deponents

- ▶ Same formal mechanism for deriving voice morphology in alternating and in non-alternating verbs
- ▶ Covers *actīva tantum* as well — no "mismatch" here
- ▶ Syntactic vs. semantic agentivity
- ▶ "Lexical idiosyncrasy" reduced to **deponent verbs**, defined as nonactive-/middle-marked agentive verbs (Grestenberger 2018, 2019a)

(23)   Active/deponent (near-)synonyms

Language	Deponent	Active verb	Meaning
Latin	*hortor*	*moneō*	'encourage, incite
	fūror	*clepō, rapiō*	'steal, rob'
Sanskrit	*grásate*	*átti*	'devours/eats'
Ancient Greek	*erúomai*	*phúlassō*	'protect, guard'
Modern Greek	*eborevome*	*adallasso*	'trade'
	katarieme	*anathematizo*	'curse'

... but this is a very small group (ca. 11% of *media tantum* in Modern Greek, Zombolou and Alexiadou 2014).

What, if anything, is a "medio-passive"?

What, if anything, is a "medio-passive"?

▶ The closest meaningful definition (imo) is "a type of passive that is marked with syncretic (i.e. "middle") morphology"—as opposed to morphology that is *excusively* used in passive contexts (and not anticausative, reflexive, etc.).

▶ Maybe (?) a "non-canonical passive" that is incompatible with some of the diagnostics of "canonical passives" (e.g., the English "*get*-passive")? But this use seems less popular.

(24) a. Mary's car was stolen.
      b. Mary's car got stolen.

(25) a. The book was/*got torn on purpose.
      b. The ship was/*got sunk [PRO to collect insurance money]

What, if anything, is a "medio-passive"?

Alexiadou and Doron (2012): in languages that have a trivalent *morphological* distinction (active–middle–passive), e.g., Hebrew, "passive" is expressed through passive morphology, while the "medio-passive" is expressed through middle morphology.

- ▶ Medio-passive is ambiguous between an anticausative and a passive reading; passive is not
- ▶ Medio-passive can occur with cause(r) and agent adjuncts ("*by*-phrases"), passive only with agents
- ▶ Medio-passive compatible with "by itself"-phrases, passive not (i.e., passive always has implicit agent argument)

What, if anything, is a "medio-passive"?

(26) Hebrew passive vs. medio-passive (Alexiadou and Doron 2012)

    a.   Passive:

        hu huva   *l-a-mesiba*   *al-yedey xavert-o/*saqranut-o*
        he bring.CAUS.PASS to-the-party by   friend-his/*curiosity-his

        "He was brought to the party by his friend/*by his curiosity"

    b.   Mediopassive:

        hu nitmax   *al-yedey emunato ha-xazaqa*
        he support.SMPL.MID by   faith.his the-strong

        "He was supported by his strong faith"

How useful is this distinction?

- ▶ We've already seen that the IE middle (nonactive) endings are ambiguous between anticausative (change-of-state) and passive readings
- ▶ There are also "trivalent" systems that develop in IE, in which new passive constructions arise (usually from older resultative or inchoative constructions):
  - ▶ -thē-aorist/"passive aorist" in Greek
  - ▶ -yá-passive in Vedic
  - ▶ Hittite periphrastic passive
- ▶ ... and in these cases, distinguishing between passive vs. mediopassive may indeed be useful.
- ▶ But also depends on whether you think that the passive reading of a syncretic mediopassive is functionally/structurally equivalent to the passive reading of the designated (non-syncretic) passive.
  - ▶ Cf. Jamison 1979b, Grestenberger 2021, Luraghi et al. 2021

How useful is this distinction?

For example, the passive reading of middle-marked verbs (i.e., "medio-passives") in Vedic passes the same tests as the newer non-syncretic -*yá*-passive (i.e., "passive"):

(27)   Inflectional vs. derivational passives: Vedic (Grestenberger 2021)

Properties	infl.	deriv.
Acc.theme → nom.subj.	✔	✔
Demoted agent → adjunct NP, instr. case	✔	✔
Eventive	✔	✔
Subject-initial	(✔)	(✔)
Subject controls absolutives	(✔)	(✔)
Subject controls reflexives	(✔?)	(✔?)

... and the same seems to be true for the Hittite middle-marked vs. periphrastic passives (Luraghi et al. 2021).

Mediopassive vs. passive in Hittite

Hittite uses instrumental/ablative marking for demoted agents and instruments in the passive (usually, and unhelpfully, Akkad. *IŠTU* 'from, with'; but not exclusively):

(28)   a.   KUB XVII 28 IV 45:

        mān ERÍN^MEŠ ḪI.A ***IŠTU*** ^LÚ**KÚR** *ḫull-**antari***
        when troups   by   enemy defeat-3PL.PRS.NONACT

        "When the troups are defeated by the enemy."

    b.   (KBo 22.6+ i 25 OH?/NS; Luraghi et al. 2021):

        ^GIŠTUKUL^ḪI.A-*iš=wa=tta*   ***šiunit***   *piyanteš*
        weapon.NOM.PL=QUOT=2SG.DAT god.INSTR give.PTCP.NOM.PL

        "the weapons are given to you by the Gods."

... but passives with demoted animate agents are rare in Old Hittite (Neu 1968, Luraghi 1986).

Mediopassive vs. passive in Hittite

- ▶ ... but frequency $\neq$ grammaticality; demoted agents in the passive were undoubtedly grammatical in *all* ancient IE languages (cf. Jamison 1979a, Luraghi 1986, Hettrich 1990...)
- ▶ ... and the apparent "rarity" of overt demoted agents in the passive is hardly unusual cross-linguistically (specifically on Hittite cf. Melchert 2016; Inglese 2018, 2020)
- ▶ Instrumental marking for "inanimate agents"/instruments must be an inherited option:

(29)   KUB 8.25 i 3, 9:

     KUR-*yaš* ^{A.ŠÀ}*kuraš* **IZI-*it***   *warnu-tari*
     land.GEN field.NOM fire-INSTR burn-3SG.PRES.MID

     "The field of the land is/will be burned **by/with fire**."

- ▶ Instruments are only compatible with a passive, not an anticausative reading, so instrument phrases should be considered a diagnostic for a passive reading for cases like (29).

(30)   a.   The ship was sunk *with/by a torpedo*
       b.   *The ship sank *with/by a torpedo*

Mediopassive vs. passive in Hittite

▶ Summing up: "medio-passive" might be a useful term for describing the passive reading of a syncretic middle/nonactive-marked verb in a "trivalent" voice system

▶ ... so the focus is again on the formal side.

▶ Whether "medio-passive" is also functionally/syntactically different from "passive" depends on your definition of the latter, e.g.:
  ▶ (ACC.?) Obj. → NOM Subj.
  ▶ No direct objects possible
  ▶ implicit agent argument

▶ ... and the diagnostics used to detect these properties.

Passive use of nonactive/middle morphology in IE

▶ The PIE middle/nonactive endings were undoubtedly syncretic: anticausative/inchoative and reflexive/reciprocal functions are generally accepted (autobenefactive is more difficult)

▶ ... but *passive* use should also be reconstructed, based on the considerations above and the existence of good functional equations and quasi-equations:

(31)   Passive (quasi-)equations (Fellner & Grestenberger 2017; **bold** = cognate)

Hitt.	Toch.	Ved.	AG	PIE	
damaš-tari			**dám**na-tai	*demh_2	'tame'
karš-tari	^{B}**kärs**nā-tār	(témne-to)		*kers, *temh_1	'cut'
	^{A}**klyo**snäṣ-tär	**ŕṇv**-é	**klé**e-tai	*ĝleu(-s-)	'hear'
	^{BA}**āś**-tär	(**aj**yá-te)	**ág**e-tai	*h_2aĝ(-e-)	'drive'
warnu-tari	^{A}tsäknäṣ-tär			—	'burn'
	^{B}yamas-tär	(kriyá-te)	pepoié-tai	—	'do'
	^{B}**käs**kän-tär (?)	(**han**yá-te)	**the**íne-tai	*g^{uh}en	'slay'/ 'scatter'
	^{A}**pär**-tär	(**bhri**yá-te), **bhára**-mā́ṇa- (ptcp)	**phér**e-tai	*b^her(-e-)	'carry'

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