

# Localizing Voice in bivalent voice systems: passive and middle in Sanskrit and Greek

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## 1 The puzzle

“**Voice co-occurrence**”: Passive and middle morphology co-occur in Vedic Sanskrit, passive and active co-occur in Ancient Greek.

- (1) Vedic passive
  - a. *bhar-a-ti*  
carry-PRES-3SG.ACT  
'carries'
  - b. *bhár-a-te*  
carry-PRES-3SG.MID  
'carries for oneself'
  - c. *bhri-yá-te*  
carry-PASS-3SG.MID  
'is being carried'
- (2) Greek aorist
  - a. *e-poiē-s-a*  
PAST-make-AOR-1SG.ACT  
'made'
  - b. *e-poiē-sá-mēn*  
PAST-make-AOR-1SG.MID  
'made myself'
  - c. *e-poiē-thē-n*  
PAST-make-PASS-1SG.ACT  
'was made'

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This is not predicted by accounts in which active/middle/passive are features of the same head Voice.

## 2 Background

- Vedic and Greek have *bivalent* synthetic voice systems: active vs. non-active (= middle, also Modern Greek (MG), Albanian, Latin, Hittite, etc.)
- Non-active occurs in the cross-linguistically expected contexts (cp. Alexiadou and Doron 2012):
  - Anticausatives
  - Reflexives
  - Dispositional/generic
  - (Medio)passives

= **Voice syncretism** (Embick 1998, 2004a)

- **Alternating verbs** can take either active or non-active endings, depending on syntactic context, **non-alternating verbs** take only active endings (*activa tantum*) or only non-active endings (*media tantum*).
- A morphologically distinct passive morpheme is only available in certain tense/aspect stems: present in Vedic, aorist in Greek. In these stems, the passive interpretation of the regular non-active form is blocked.

## 3 Passive $\neq$ middle

- Alexiadou and Doron (2012), Alexiadou (2013), Bruening (2013): Passive ( $\pi$ ) and middle ( $\mu$ ) are two different functional heads, both suppress the external argument = “syntactic” approach to the middle
- Embick (1998), (2004a), Kallulli (2007), (2013): Non-active (= middle in trivalent systems) is assigned *postsyntactically* to particular syntactic environments. [NONACT]  $\neq$  a feature in the syntax.

(3) Condition on non-active voice (Embick 2004a, 150):

$v \leftrightarrow v\text{-X}/\_$  **No external argument**

“Non-active voice is assigned when  $v$  does not introduce an external argument”

(“-X” = morphological exponence of “non-active” in a given language)

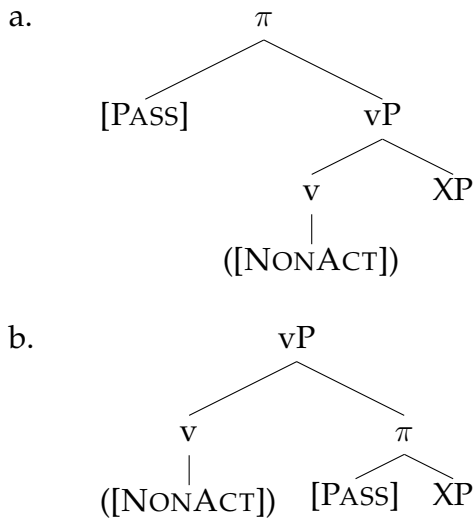
**Conclusion:** [NONACT] is a morphological feature on  $v$  in a particular syntactic environment, [PASS] is a syntactic feature of a designated functional head (“Voice” in, e.g., Harley 2013, Bruening 2013, Alexiadou 2013).

## 4 Evidence

- Middle/non-active is ambiguous between different interpretations, passive is not, e.g., MG *pleno-me* (wash-1SG.NONACT) ‘I wash myself/I am (being) washed’
- Passive = valency-reducing, middle/non-active not:
  - ACC available in middle/non-act. self-benefactives, reflexives, experiencer verbs, and deponents in Vedic & Greek
  - No valency reduction in *media tantum*

... if [NONACT] alone is a property of *v*, where is [PASS]? Two possibilities:

Fig.1: [PASS] vs. [NONACT]:



(a.: Harley 2013, Bruening 2013, b.: Alexiadou and Doron 2012)

## 5 Passive in Vedic

Both in Vedic and in Greek, the passive morpheme (Ved. *-yá-*, Gk. *-thē-*) has other functions besides making passives. Vedic: Passive *-yá-*: accent = on the suffix, intransitive *-ya-*: accent = on the root.

- (4) Vedic intransitive *-ya-*
- pád-ya-te*  
fall-PRES-3SG.MID  
‘falls’

- b. *búdh-ya-te*  
 awake-PRES-3SG.MID  
 ‘is awake’

Unaccented *-ya-* also found in deponents: *trá-ya-te* ‘protects’ (NB no “passive” deponents with *-yá-*).

(5) Minimal pairs

- a. *múc-ya-te* — *muc-yá-te*  
 release-PRES-3SG.MID release-PASS-3SG.MID  
 ‘escapes’ — ‘is released’
- b. *kṣí-ya-te* — *kṣī-yá-te*  
 perish-PRES-3SG.MID perish-PASS-3SG.MID  
 ‘perishes’ — ‘is destroyed’

Co-occurrence of the passivizing suffix with any other stem-forming suffix is impossible:

(6) Nasal infix presents & passives

- a.  $\sqrt{yuj}$  ‘yoke’  
*yu<ná>k-* / *yu-ñ-j-* — *yuj-yá-te*  
 yoke<CL>- yoke-PASS-NONPAST.3SG.MID  
 ‘yokes’ — ‘is being yoked’
- b.  $\sqrt{bhid}$  ‘split’  
*bhi-ná-t-* / *bhi-n-d-* — *bhid-yá-te*  
 split<CL>- split-PASS-NONPAST.3SG.MID  
 ‘splits’ — ‘is being split’

NB expected *\*yu-ñ-j-yá-te*, *\*bhi-n-d-yá-te* would be phonologically possible.

**Conclusion:**

- The passive head in Vedic and Greek is below  $v$ ([NONACT]) and in complementary distribution with the verbalizing head  $V$  (“verbalizer” as in Distributed Morphology)
- Passive head =  $V\pi$  (where  $\pi$  corresponds to the feature [PASS] used in other approaches).
- $V\pi$  can merge the demoted agent in Vedic (with lexical instrumental case)

## 6 Passive in Greek

Greek: *-thē-* usually forms intransitive aorists in Homer.

- (7) Intransitive *thē-*aorists
- a. *e-krúph-thē-n*  
PAST-hide-AOR-1SG.ACT  
'I hid (myself)'
  - b. *e-phobē-thē-n*  
PAST-flee-AOR-1SG.ACT  
'I fled'

*-thē-* alternates with other aorist stem-forming morphology:

- (8) Alternation with stem-forming morphology
- a. *é-du-s-a*  
PAST-sink-AOR-1SG.ACT  
'I sank sth.'
  - b. *e-dú-thē-n*  
PAST-sink-PASS-1SG.ACT  
'I was sunk'

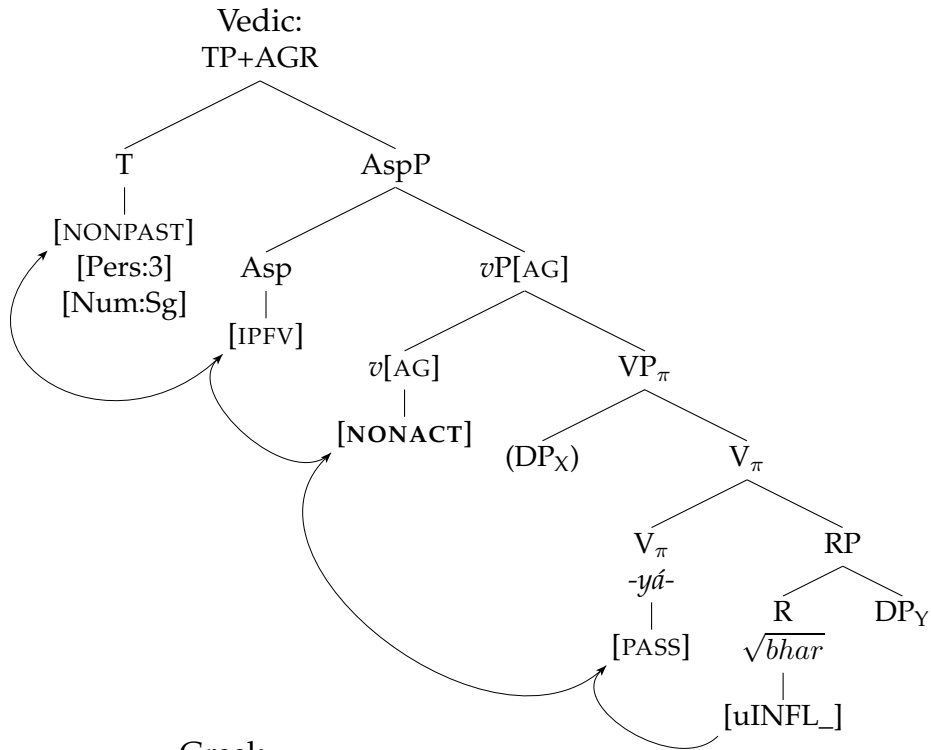
## 7 Analysis

Vedic:

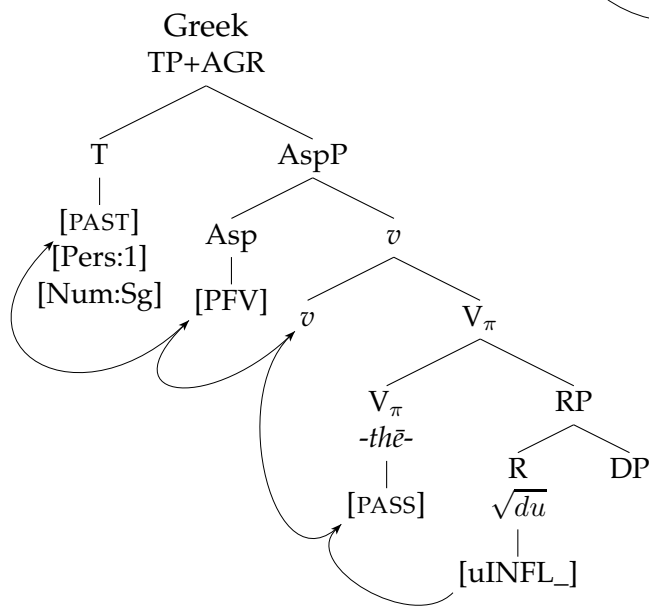
- Root node merges with passivizer, which introduces the demoted agent
- $v[AG]$  is selected  $\rightarrow$  no agent DP in its specifier  $\rightarrow$  non-active morphology inserted at Spell-Out (Fig. 2a)
- Prediction: Because the agent is introduced below  $v$ , Vedic passives always emerge with nonactive morphology ✓
- Head-movement values uninterpretable features of the root/stem (Upwards Agree, Bjorkman 2011)

Figure 2: Vedic vs. Greek passive

a.



b.



## Greek:

- Active morphology not predicted by Fig. 2a.
- Solution: Greek *-thē-* selects a different type of *v*: “defective *v*”
  - Chomsky (2001): *v\** ( $\phi$ -complete) vs. *v* (defective)
  - Embick (2004a): *v*[AG] vs. *v*
  - Kallulli (2007), (2013): *v*[+act], *v*[+caus] vs. *v*
- *-thē-* patterns with formally active unaccusatives and selects “defective” *v* (Fig. 2b.) → non-agentive and therefore not evaluated for the condition in ex. 3.
- **Active = default** (elsewhere)

## 8 Evidence

- The agent of *yá-* passives is always an instrumental adjunct; Greek demoted agents in the passive occur with a variety of (lexically determined) prepositions (*ek*, *hupó*, *pará*, *prós*), all of which also occur with formally active anticausatives (with or without the suffix *-thē-*)
  - Vedic: accentual difference between passive *-yá-* and intransitive/anticausative *-ya-*.
  - Passive *-yá-* always triggers non-active morphology, anticausative/inchoative *-ya-* regularly takes active morphology:
- (9) Vedic active anticausatives:  
*írṣyati* ‘is/becomes angry’, *kṣāyati* ‘burns’, *kṣúdhyati* ‘becomes hungry’, *glāyati* ‘becomes weary’, *tusyati* ‘is pleased’, *tṛṣyati* ‘is/becomes thirsty’, etc.  
(51 out of 76 unaccented active *ya-* stems in Kulikov 2012)

## 9 Conclusion

- 2 ways of being formally active: 1) by having an agent in the specifier of *v*[AG], 2) by selecting (non-agentive) *v*
- Active morphology = default, surfaces because the conditions for non-active are not fulfilled
- Passive in the syntax, act./non-act. = “postsyntactic”
- Passive head  $\pi$  can be above or below *v*. Further parametrization:

- Some languages lack  $\pi$  entirely (Modern Greek, Palestinian Arabic (Alexiadou 2013))
- Some languages do not evaluate  $v$ [AG] for +/- ext. argument (English, German, French, etc.)

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