The Indo-Iranian 3pl. aor. ending -*anta* and the thematic aorist

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1 Introduction

The problem: status of Ved. 3pl. *middle* R(ø)-"thematic" aorist injunctives of the type *juṣánta* 'tasted, enjoyed' (also ind. *ájuṣanta*), *budhánta* 'woke up', *mṛṣanta* 'forgot', etc.

- Synchronically part of the passive aor. paradigm, but formally & functionally close to a thematic aorist.
- Usually analyzed as (thematized) suppletive middle root aorists, e.g., Cardona 1960: 27: -*anta* = replacement of the passive aorist ending -*ra(n)*; backformed from the active endings (i.e., a "medialization" of the active athematic 3pl. -*an*).
    - Likely for *kránta* 'they make, procure', but unlikely for *media tantum* forms like *juṣánta* and *mṛṣanta*.
- Watkins 1969: 37f. : -*anta* from *-*e/onto* in athematic aorist injunctives must be older than athematic -*ata* < *-*ṇto* and reflect an inherited alternation between the endings *-*r(o)*/*-*(e/)nt(o)* similar to the quasi-suppletive pattern 3pl.aor.ind. *ábudhran*: 3pl.aor.inj. *budhánta* in Vedic
    - The quasi-suppletive distribution 3pl. indicative in -*ra(n/m)*: 3pl. injunctive in -*anta* (Hoffmann 1967: 227, fn. 225; cf. also Jamison 1979: 160) is indeed the norm for these forms, although there are exceptions (e.g., the 3pl. indicatives *ájuṣanta* in RV 4.33.9a and *ahᵤvanta* in, e.g., RV 4.6.9d)
    - The distribution is at least in part due to metrical considerations: pairs like *ábudhran* and *budhánta* are metrically equivalent, and the *anta*-forms occur for the most part in cadences of 11- and 12-syllable verses (Cardona 1960: 27f.)
- Insler 1968, Kümmel 1996, Gotō 2013: *anta*-forms = quasi-suppletive middle root aorist forms, but redundant to operate with *two* (inherited?) root aorist stems.

→ R(ø)-thematic aorists = productive in Indo-Iranian and Greek, but their origin is controversial

- Cardona 1960: at least **h₁ludʰ-é/ó-* 'came' (Ved. *áruhat*, OIr. *luid, lotar*, Toch. A *läc* 'went out') and **u̯id-é/ó-* 'saw' (Ved. *ávidat* 'found', Gk. εἶδε 'saw', Arm. *egit* 'found') must be reconstructed for Proto-Indo-European (PIE)
- But no further (secure) equations; general tendency of thematization of root aorists/presents → thematic aorist *as a category* not usually reconstructed for PIE (cf. LIV²)
- Jasanoff 2017: PIE origin of the R(ø)-thematic aorist from "*h₂e-conjugation" forms such as the 3sg. **u̯id-é*: originally imperfective middles → reanalyzed as active aorists by late PIE & renewed with formally active thematic endings
    - Cf. the discussion of Ved. *áduhat* 'produced milk' from *áduha in Watkins 1969

Today's goals:

- revisit the "thematic" endings of the passive aorist from the perspective of the origin of the thematic aorist
- compare these forms to the (hitherto neglected) middle forms of the thematic aorist in Greek (e.g., ἴδοντο 'they saw', etc.)
- discuss their relationship with the 3pl. middle ending *-*ro* (Ved. -*ran/m*) and the status of the putative athematic 3pl. middle ending *-*énto* reconstructed by, e.g., Rix 1992.
- argue that the formal remodeling of the 3pl. of inherited "proto-middle" aorists with a recharacterized middle ending *-*onto* was another source of the R(ø)-thematic aorist (besides the recharacterization of originally active forms like **u̯id-é*)
- Implication: at least some of the IIr. & Gk. aorist forms in *-*onto* are inherited from (at least) the ancestor of the Graeco-Aryan languages, rather than independent innovations.

2 Background

Jasanoff 2003, 2013, 2017, Forthcoming, etc.: the IIr. passive aorist continues "proto-middle", stative-intransitive $*h_2e$-aorists with o-grade of the root in the strong stem (and the 1-2pl., Jasanoff 2013, Melchert 2013), R(ø) in the 3pl., and the $*h_2e$-conjugation set of endings: 1sg. $*\text{-}h_2e$, 2sg. $*\text{-}th_2e$, 3sg. $\text{-}e$, 3pl. $*\text{-}\mathring{r}s \rightarrow$ $*\text{-}ró$ (reflected most directly in the IIr. & Gk. active perfect endings).

- $*h_2e$-aorists are continued as passive aorists or athematic middle root aorists in Indo-Iranian and (indirectly) as passive (η-) aorists or athematic middle root aorists in Greek.

Table 1. Some reflexes of $*h_2e$-aorists (cf. Jasanoff 2003: 160)

$*h_2e$-aor.	meaning	Sanskrit	Avestan	Greek
$b^h o\underset{\smile}{u}d^h\text{-}/b^h ud^h\text{-}$	'wake up'	ábodhi		
$\hat{g}onh_1\text{-}/\hat{g}\mathring{n}h_1\text{-}$	'be born'	ajani		ἐγένετο
$\hat{k}le\underset{\smile}{u}\text{-}/\hat{k}lu\text{-}$	'hear'	śrā́vi	srāuuī	[κλῦτε]
$mon\text{-}/m\mathring{n}\text{-}$	'remember'	ámata	maṇtā	ἐμάνην
$mors\text{-}/m\mathring{r}s\text{-}$	'forget'	mr̥ṣthā́s		

E.g.: 3sg./3pl. of the late PIE middle root aor. of $*b^h e\underset{\smile}{u}d^h$ 'wake up, become aware', (1) (eventually > attested Ved. passive aorist of $budh$); before branch-specific formal renewal of the middle endings.

(1)   Late PIE middle aorist of $*b^h e\underset{\smile}{u}d^h$

$$\begin{array}{ll} \text{3.sg.} & \text{3.pl.} \\ b^h ó\underset{\smile}{u}d^h\text{-}e & *b^h ud^h\text{-}ró \end{array}$$

Closest corresponding aorist formation in Greek: thematic *middle* aorist ἐπυθόμην 'learned'; 3pl. ἐπύθοντο = formally and semantically Ved. inj. *budhánta*.

- **→ suggests that at least some 3pl. aorists of the shape $*b^hud^h\text{-}ró$ were formally renewed as "thematized" middle forms in -*onto* and surface as thematic (or, in the case of Vedic, "suppletive" thematic) aorists.**
  - This replacement presumably happened in analogy with already existing middle thematic presents (though this needs further study).
- These renewed forms then acted as the starting point for the backformation of a full-blown thematic middle paradigm in Greek and, in a few cases, in Indo-Iranian
- ... which would explain the association of R(ø)-thematic aorists with stative-intransitive aoristic roots, their root ablaut grade, and specifically the association of the IIr. 3pl. ending -*anta* with the passive aorist paradigm.

> The claim: certain middle R(ø)-thematic aorists in Vedic and Greek are continuants of non-alternating "proto-middle" aorists and therefore reconstructable for (at least) the immediate ancestor of Graeco-Aryan.

Criteria for status as inherited R(ø)-thematic middle aorist form (in -*anta*):

1. must be associated with a passive aorist paradigm in Indo-Iranian.

2. must have the right semantic and syntactic profile, i.e., canonical middle functions (or be derivable from such functions), e.g., inchoative, stative, experiencer, speech act verbs, etc., cf. Kemmer 1993, Kaufmann 2007, Grestenberger 2014, 2018.

3. no older, primary intransitive aorist formation with the same function is attested.

4. must be *medium tantum* (if an active paradigm exists, it must demonstrably secondary to the middle).

3 Vedic

Excluded: forms like *kránta* which belong to an obvious synchronically alternating root aorist and for which back-formation from the 3pl. (i.e., *ákran*) cannot be excluded; *anta*-forms in otherwise active paradigms that not display a discernible meaning difference w.r.t. the active form (cf. Jamison 1979).

3.1 *juṣ* 'like'

- 3pl. aorist *(á)juṣanta*: 23x in the RV (14x Triṣṭubh-cadence, 1x Gāyatrī-cadence, 2x Uṣṇih-cadence)
- Part of a fully-fledged, almost exclusively middle thematic aorist paradigm

Kümmel 1996, LIV^2: assume thematization of an old root aor., but only evidence: RV middle ptcp. *juṣāṇá-*.[1]

- But this could equally well belong to the passive aorist attested in the 3pl. *ajuṣran*; cf. the close semantic and syntactic match between *ajuṣran*, (2), *juṣāṇá-* in, e.g., RV 7.7.2, (3), and *ájuṣanta*, (4).

(2) RV 1.71.1c-d:
svásāraḥ śyávīm áruṣīm **ajuṣrañ**
citrám uchántīm uṣásaṃ ná gávaḥ
"The sisters [=fingers] have delighted in the dusky one and in the ruddy one [=two fire-kindling sticks], like cows in the brilliantly dawning dawn."[2]

(3) RV 7.7.2a-b:
ā́ yāh\<i\> agne path\<í\>yā ánu svā́
mandró devā́nāṃ sakh\<í\>yám **juṣāṇáḥ**
"Journey here along your own paths, o Agni, as the delighting one who takes pleasure in companionship with the gods"

(4) RV 4.33.9a-b:
ápo h\<í\> eṣām **ájuṣanta** *devā́*
abhí krátvā mánasā dī́dh\<i\>yānāḥ
"Because the gods were pleased at their work, reflecting on it according to their purpose and with their thought, ..."

Cognates & comparanda: *juṣ* < **ĝeus* 'taste, try'; perf. Ved. *jujóṣa*, Goth. *kaus*, etc. No direct comparandum in Greek, which has an innovated *s*-aorist ἐγευσάμην (pres. γεύομαι) = *medium tantum* like in Ved. in the relevant meaning ('try, taste'), which suggests that this was indeed an inherited ("proto-")middle.

- **Conclusion**: functional overlap between the passive aorist *ajuṣran* and the forms of the thematic aorist (especially *(á)juṣanta* & 2sg. mid. ipv. *juṣásva*)
- the canonical middle meaning and the general *medium tantum* behavior of this verb in Vedic make it likely that the relationship between *ájuṣran*: *(á)juṣanta* can be compared to that of *ábudhran*: *budhánta*

3.2 *budh* 'awake, become aware'

3pl.aor.inj. **budhánta** 'awaken(ed)': 3x in the RV (Triṣṭubh-cadences); matches the 3pl. passive aorist *abudhran* (2x) & *ábudhram* (1x) (3sg. *ábodhi*, 11x) both syntactically and semantically, e.g.:

(5) RV 7.80.1a-b:
práti stómebhir uṣásaṃ vásiṣṭhā
gīrbhír víprāsaḥ prathamā́ **abudhran**
"With their praises, with their hymns, the Vasiṣṭhas, inspired poets, have awakened first in response to Dawn"

(6) RV 7.9.4c-d:
susaṃdṛśā́ bhānúnā yó vibhā́ti
práti gā́vaḥ samidhā́nām **budhanta**
"He who radiates forth with a radiance beautiful to see—cows awaken in response to him as he is kindled."

Kümmel (1996: 76): *budhánta* = 3pl. inj. of suppletive middle root aorist, but as in the case of *juṣanta* it is unlikely that *budhánta* continues a paradigm separate from the attested passive aor.

- the ptcp. *budhāná-* (3x) could equally well belong to the passive aor. paradigm (incl. *budhánta*), e.g.:

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[1]The age of the 3sg. aor.subj. *joṣat* in RV 1.1675 is controversial, cf. Narten 1964: 120, fn. 322.
[2]All RV passages cited after van Nooten and Holland 1994; all translations from Jamison and Brereton 2014.

(7)   RV 7.68.9a-b:
eṣá syá kārúr jarate s\<u\>\<u\>ktáir
*ágre **budhāná** uṣásāṃ sumánmā*
"This praise-poet here awakens with good hymns, rousing himself at the beginning of the dawns, bringing good thoughts."

Cognates & comparanda: Ved. *budh* < PIE *$b^h eud^h$ 'awake, become aware', perf. Ved. *búbodh-, bubudhāná-*, Gk. πέπυσμαι, Goth. *-bauþ*, etc., full-grade thematic pres. Ved. *bódhati*, OAv. *baodant-*, Gk. πεύθομαι, etc.

- **Conclusion**: good evidence for an inherited *h_2e-conjugation ("proto-middle") aorist
- the Vedic forms fulfill all four criteria proposed above; Greek cognates cf. below

3.3   *mṛṣ* 'neglect, forget'

mṛṣanta: 1x, Triṣṭubh-cadence:

(8)   RV 7.18.21c:
*ná te bhojásya sakh\<i\>yám **mṛṣant\<a\>***
"they did not neglect their partnership with you, who provided for (them)."

An old root aorist paradigm is suggested by the 2sg. *middle* injunctive *mṛṣthās* in RV 3.33.8.

- However: no unambiguous passive aorist forms attested
- Even so, the general averbo in Ved. (act. perf. *mamárṣa, ya*-present) and its Tocharian cognates (Toch. B subj. V 3sg. *mārsaṃ*, pres. III 3sg. *märsetär* 'forgets') point to a *h_2e-conjugation profile

3.4   *vid* 'find; know'

3pl. ***vidánta*** in RV 4.1.14d: synchronically part of the paradigm of inherited thematic aor. *ávidat* 'found'.

(9)   RV 4.1.14:
té marmṛjata dadṛvā́ṃso ádriṃ
tád eṣā́m anyé abhíto ví vocan
paśváyantrāso abhí kārám arcan
***vidánta** jyótiś cakṛpánta dhībhíḥ*
"They [=the forefathers/Aṅgirases] cleaned themselves, after having split the stone. This (deed) of theirs the others proclaimed all about. Lacking ropes to hold the livestock, they sang the decisive act: "They found the light! They sought it with their insightful thoughts!"."

Cognates & comparanda: Pass. aor. *avedi* 'was found (as)' & 'stative' *vidé* 'is known' (3pl. *vidré*); sometimes analyzed as belonging to a separate root *vid²* 'know' (besides *vid¹* 'find'); historically both go back to *$u̯ei̯d$ 'see'. Cf. Jasanoff 2003: 228ff., 2017 on the derivational history of the *active* thematic aorist.

- ...but the *middle* 3pl. *vidánta* is odd because this Ved. thematic aorist is otherwise exclusively active
- Moreover, *vidánta* does not seem to have any specifically "middle" meaning in RV 4.1.14, or indeed any meaning difference compared to the corresponding *active* 3pl. → no *oppositional* middle
- Synchronically it cannot belong to the passive aor. or "stative" either → these are syntactically passive

Possible solution: IIr. *$u̯idónto$ was originally associated with a *medium tantum* *$u̯ói̯d$-(e)/*$u̯id$- 'know' (= *h_2e-conjugation predecessor of Ved. *ávedi*) as a thematic replacement of its expected 3pl. *$u̯id$-*ró* (like *(á)juṣanta/ajuṣran, budhánta/ábudhran*). When *avedi* became reanalyzed as oppositional passive, *vidánta* stayed transitive and was grouped with the semantically closer, but formally active paradigm of *ávidat*.

- But *vidánta* is attested only once in a Triṣṭubh-opening, so may also be a nonce form or part of the replacement tendency of secondary active *-an* by *-anta* in non-alternating RV verbal stems (cf. Jamison 1979).

3.5   *hū̆/hav^i* 'call'

3pl. middle ***áh(u)vanta*** attested 4x in the RV, syntactically active and transitive, e.g.:

(10)   RV 5.29.8:
trī́ yác chatā́ mahiṣā́ṇām ágho mā́s
trī́ sárāṃsi maghávā som\<i\>yápāḥ

> *kārám ná víśve* **ah\<u\>vanta** *devá*
> *bháram índrāya yád áhiṃ jaghắna*
>
> "When you the bounteous devoured the flesh of three hundred buffaloes and drank three somiyan lakes, all the gods called "Carry (the day)!" to Indra as (a gambler calls) "Game!," when he smashed the serpent."

Cognates & comparanda: "stative" pres. $*\hat{g}^h uH\text{-}ó(r)$ in Ved. *huvé* 'calls (to)' (*hūmáhe* 'we call'), Toch. B. *kwātär* 'calls'; act. thematic aor. *áh(u)vat* 'called'. The expected and reconstructable passive aorist $*áhă̆vi$ (or $*áhvāyi$) is unattested (Kulikov 2006: 55f.: passive uses of ptcp. *huvāná-* belong to this expected passive aor.[3]

- *áh(u)vanta* could formally belong to "stative" *huvé* or the thematic aor. *áhuva-*
- In the latter case, *áh(u)vanta* would be comparable in status to *(á)juṣanta*, *budhánta*, etc. → starting point for the development of the originally middle Vedic thematic aorist?
- thematic aorist = oldest attested aorist formation of this root
- canonical middle function & $*h_2e$-conjugation profile ("root stative-intransitive" pres. *huvé*, full grade thematic pres. Ved. *hávate*, YAv. *zauuaiti* 'curses', OCS *zovǫ* 'call') → three of the four criteria suggested above are fulfilled, but there is no attested passive aorist in IIr.

3.6 Other

- 3pl. aor. **(a)íṣanta** (RV 1.126.5) & aor. subj. **iṣanta** (RV 1.134.5): unclear. Lubotsky 1997: aorists of *iṣ^i* 'send, propel' (LIV²: $*h_1eish_2$), Jamison and Brereton 2014: the former = *iṣ* 'search for, seek' (LIV² $*h_2eiṣ$). If so, thematic aor. *aiṣanta* 'they seek' would be an innovation compared to the older *s*-aorist, OAv. *āiš* 'wishes'. Neither root has a $*h_2e$-conjugation profile.
- **(a)kṛpanta** 'they yearn for, pine after' (RV 9.85.11, 9.99.4, 10.24.5, 10.123.4); 3pl. *akṛpran* (Triṣṭubh-cadence, RV 4.2.18) = passive aor. of the same root (*kṛp* 'yearn, pine for')? Kümmel 1996: *akṛpran* = *krap²* 'sich gestalten' (cf. also Gotō 1987: 114, EWA I: 409, VIA I: 389, 415), like *ánu kṛpá-^te* (RV 1.113.10, 8.76.11), possibly related to *klp* 'fit, be suitable'. *(á)kṛpanta* & *kṛpáte* are usually interpreted as belonging to a class VI present, but Jamison 1983: 57 argues that this present goes back to an older thematized aorist that arose precisely through thematization of the root aorist attested in *akṛpran*, so an old $*h_2e$-aorist averbo is at least possible. No cognates outside of IIr.
- **atviṣanta** 'they have grown excited' (*tviṣ* 'grow excited'), RV 8.94.7a, & *átviṣur* 'they were in motion' (Jamison and Brereton 2014), RV 10.56.4c: traditionally interpreted as imperfect forms, but could also be aorists (e.g., Kümmel 2000: 224f., LIV²: 654, Hill 2007: 281). In that case, *atviṣanta* = thematized root aorist attested in *átviṣur*, possibly a stand-in for expected $*atviṣan$ (Joachim 1978: 89). So maybe an IIr. thematic aor., but unmotivated vacillation between active and middle morphology makes it difficult to decide on the original inflection. Moreover, only weak traces of a $*h_2e$-conjugation profile (alternating full-grade thematic pres. σείω 'shake, move (sth.)' in Greek,[4] no passive aor. in IIr.
- Hoffmann 1976: 360ff.: 3pl. **naśanta** 'they reach' (4x; *naś* 'reach') and related "thematic" forms (3pl. *naśan*, etc.) = root aor. subj. of the athematic aor. *ắnaṭ* 'reached'. Difficult for RV 7.1.22c-d *mắ te asmắn durmatáyo ... naśanta* "Let not bad thoughts from you (...) reach us, ...", where *mắ* requires an injunctive,[5] but seems superior to operating with a thematic pres. or aor. inj.
- 3pl. **mananta** 'they pondered' (*man* 'think'), RV 10.67.2d: usually interpreted as aorist subj. of root aor. 3sg. *ámata* (RV 10.68.7, also 1pl. *ámanmahi*), but classified as aor. inj. in Gotō 1998. Fairly well-established $*h_2e$-conjugation profile of the root $*men$ (Ved. class IV pres. *mányate*, Av. *mainiia-*, Gk. μαίνομαι, OIr. *-mainethar*, etc.; perf. Ved. *mamn-*, YAv. 3sg. *mamne* 'has thought', Gk. μέμονα, Lat. *meminī*, etc.; middle root aor. Ved. *ámata*, OAv. *mantā*, indirectly continued by Greek ἐμάνην, cf. Jasanoff 2003: 155ff., 2004: 161ff.), so very likely that *mananta* should be added to the list of middle aorist injunctives discussed above—but no passive aor. nor thematic aor. attested in IIr.
- 3pl. **yuvanta**, RV 8.71.4 (& *áyuvanta*, AV 4.23.5): usually analyzed as ipf. of the class VI "aorist present" *yuváti* 'holds together, joins (sth.)' from *¹yu* 'unite, join together' on formal grounds, but semantically closer to *²yu* 'separate, hold off' (Hill 2007 with lit.):

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[3]NB *huvāná-* is transitive at least once (RV 7.30.3), like the stative/middle present.

[4]See Brugmann 1892: 913, Cardona 1960: 59, Hollifield 1977: 66ff. on the observation that full grade thematic presents are often associated with R(ø)-thematic aorists.

[5]Hoffmann's explanation of *naśanta* as *metri causa* nonce form, though generally accepted (Gotō 1987: 82, LIV² = Rix, H. 2001: 283, n.2), is not very satisfactory for a form occurring in a cadence.

(11)   RV 8.71.4:
       ná tám agne árātayo
       mártaṃ **yuvanta** *raāyáḥ*
       yáṃ trā́yase dā́ś<u>váṃsam
       'Hostilities do not keep that mortal away from wealth, o Agni, the pious one whom you
       safeguard."

But difficult to decide whether the form is a pres. or an aor. inj.

- 3pl. inj. **yujanta** 'they yoked' (*yuj* 'yoke'), RV 6.66.6b: transitive and agentive like the athematic
  middle aorist forms (e.g., *áyukta*, RV 7.60.3, *ayujmahi*, RV 6.53.1), whereas the passive aor. forms *áyoji*,
  áyujran are (unsurprisingly) syntactically passive, so unlikely that *yujanta* belongs here. However, it
  remains problematic from a formal point of view—probably remodeling of active **yuján → yujánta*,
  parallel to *krán → kránta*.

4   Avestan

OAv. 3pl. **xšə̄ṇtā̄** 'they rule' (*xšǎ* 'rule', Ved. *kṣi*) in Y. 48.5, cf. (12), is analyzed as an aor. inj. in Kellens
1984: 365, Kellens 1995: 17, Hoffmann and Forssman 2004: 222f, cf. also YAv. 2sg. opt. *xšaēša* (Y 8.5),
OAv. 3sg. opt. *xšaētā̄* (Y 41.2), OAv. 3pl. ipv. *xšəṇtạm* (Y 48.5).

(12)   Y. 48.5 (Humbach 1991: II, 177):
       huxšaθrā̄ xšə̄ṇtạm mā̄ nə̄ ⁺dušəxšaθrā̄ **xšə̄ṇtā̄**
       "Let good rulers assume rule, do not let bad rulers assume rule over us!"

Two competing etymologies, based on the interpretation of the associated thematic pres. Ved. *kṣáya-*,
OAv. & YAv. *xšaiia-*, OP *xšaya-*:

- Thematized *i*-present $*kþeH\text{-}ie/o\text{-} < *tk\text{-}eh_{1/2}\text{-}\hat{i}\text{-}e/o\text{-}$ (Ion. Gk. κτέομαι suggests $*h_1$), Peters 1980:
  180, EWA I: 426f., VIA I: 281, Jasanoff 2003: 104ff., cognate with Ion. Gk. κτέομαι (Att. Gk. κτάομαι)
  'purchase, buy', in which case *xšə̄ṇtā̄* could reflect an old (thematic) middle aor. $*kš\text{-}anta < *tk\text{-}$
  $(e/)onto$.
- A secondary $*\acute{e}ie/o$-present $*h_3k^u\text{-}\acute{e}ie/o\text{-}$, from an *s*-stem/desiderative $*h_3(e)k^u\text{-}s\text{-}$ to $*h_3(e)k^u$ 'catch
  sight of, behold', Mayrhofer 1986: 157, LIV² : 297f., 619 n. 1, Lipp 2009: II, 299ff., cf. Gk. ὄψομαι 'I
  will see' $<$ desid./subj. $*h_3(\acute{e})k^u\text{-}se/o\text{-}$. In that case, Gk. κτέομαι, κτάομαι must be kept separate.

Both have problems:

- The first approach (Ved. *kṣáya-*, Av. *xšaiia-* = Gk. κτέ/άομαι) has phonological problems, namely
  lack of compensatory lengthening in IIr. expected in a preform $*tk\text{-}eh_{1/2}\text{-}\hat{i}e/o\text{-}$[6] and reflex of initial
  "thorn cluster" $*tk\text{-}$ as *xš*- (cf. Lipp 2009: I, 344ff, 2009: II, 299f., Melchert 2003, Jasanoff 2018); also:
  semantic gap between 'purchase, buy' and 'rule over' (see Meier-Brügger 1978: 236 and Lipp 2009: II,
  299 for possible explanations).
- The second approach assumes a controversial category, R(ø)-$\acute{e}ie/o$-presents, for Gk. & IIr.; the relevant
  verbs in this class have alternative (though also controversial) explanations, cf. Jamison 1983: 48ff.,
  Jasanoff 2003: 101, Yakubovich 2014: 13ff.

Alternative?

- The aorist inj. *xšə̄ṇtā̄* & opt. *xšaētā̄* suggest the root was synchronically *xša/xšā*, so *xšaiia-* (whatever
  its derivational history) may have been perceived as a *iia*-present
- Which in turn suggests that the P(I)Ir. predecessor of its thematic aor., $*xš\text{-}anta$, was at some point
  segmented as $*xša\text{-}nta$, giving rise to a pres. $*xša\text{-}iia$- (no class I pres. possible).
- Taking $*xš\text{-}anta$ further back, we notice that $*h_3ek^u$ 'catch sight of' does not make an old aorist → at
  least partially due to the fact that the desiderative *s*-stems of this root were reanalyzed as neo-roots,
  e.g., Ved. *ī́kṣ* 'see, perceive' $< *h_3i\text{-}h_3k^us\text{-}$.
- If the unreduplicated desiderative $*h_3k^us$- underwent the same development, it would not be surprising
  if the resulting P(I)Ir. neo-root $*kš$ or $*xš$ (once categorized as aoristic), had formed a primary thematic
  middle aorist:
    - middle inflection is the norm for verbs of perception in most older IE languages & cross-linguistically.
    - middle *root* aorists were not a productive category in PIIr.

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[6]See Jasanoff 2003: 101ff. for a possible explanation.

– middle *s*-aorists tend to be oppositional middles to transitive *s*-aorists rather than *media tantum*.

- But since middle *thematic* aorists were apparently viable continuants of older proto-middle paradigms in Old Indic (many of which are synchronically *media tantum*), it makes sense that a PIIr. neo-root *$k\check{s}$ or *$x\check{s}$ '(over)sees, watches (over)' also built a middle thematic aorist.
- ... with subsequent resegmentation of the root as *xša-* & formation of the (at least initially) class IV pres. *$x\check{s}aiia$- as outlined above.

Speculative - but avoids the phonological & morphological issues discussed above (at the cost of separating Av. *xšaiia-* from Gk. κτάομαι).

5 Greek

5.1 ἐπύθοντο

R(ø)-thematic *middle* aor. ἐπυθόμην 'I learned' (Hom.+); full grade thematic pres. πεύθομαι 'I learn, perceive' (cf. Ved. *bódha-*, though note the semantic difference); reduplicated aor. (3sg.opt. πεπύθοιτο) probably a a metrically convenient variant of the thematic aor. (Bendahman 1993, Beckwith 1996). *Medium tantum* verb in archaic Greek → supports the reconstruction of an old proto-middle. Homeric forms of πεύθομαι and ἐπυθόμην are mostly transitive with acc. objects, cf. (13), but the object can also be marked with the gen., (14).

(13) Hom., *Il.* 5.702:
ὡς **ἐπύθοντο** μετὰ Τρώεσσιν Ἄρηα
"... when they noticed/became aware of Ares among the Trojans."

(14) Hom., *Il.* 15.224:
μάλα γάρ κε μάχης **ἐπύθοντο** καὶ ἄλλοι
"For indeed also others had noticed/become aware of (our) fight."

Cf. Ved. *budh* + gen., acc. objects = 'become aware of'.

- The R(ø)-thematic aor. is the oldest attested aorist stem in Greek.
- Combined with the Vedic evidence discussed above, the equation Ved. *budhá-*: Gk. πυθε/ο- fulfills all the criteria for an old R(ø) middle thematic aorist.

5.2 ἴδοντο

Widespread consensus that both Indo-Iranian and Greek inherited an *active* thematic aorist *$\underset{\circ}{u}id\text{-}\acute{e}\text{-}t$ (Ved. *ávidat* 'found', OAv. *vīdat̰* 'finds', Gk. εἶδε 'saw', Arm. *egit* 'found'), but there are also traces of an old *middle paradigm*: Ved. *vidánta* above (with caveats); Gk. middle forms of the thematic aor. εἶδε already in Homer, crucially *not* oppositional middles ("be seen" vel sim.):

(15) Hom., *Il.* 4.374:
ὡς φάσαν οἵ μιν **ἴδοντο** πονεύμενον
"... as they say who saw him toiling" (also augmented εἴδοντο, e.g., in *Il.* 16.278)

(16) Hom., *Il.* 10.47-8:
οὐ γάρ πω **ἰδόμην** οὐδ' ἔκλυον αὐδήσαντος
ἄνδρ' ἕνα τοσσάδε μέρμερ' ἐπ' ἤματι μητίσασθαι
"For I have never seen or heard somebody saying that one man devised so much mischief in one day ..."

Bechtel 1924: Ionic authors prefer middle inflection of this verb,[7] suggesting that some dialects systematically generalized middle rather than active inflection (not uncommon in verbs of perception).

- So the *middle* R(ø)-thematic aorist in Ionic could be a direct continuant of its late PIE proto-middle predecessor *$\underset{\circ}{u}\acute{o}id\text{-}/\underset{\circ}{u}id\text{-}$
- ... but the potential Vedic comparandum *vidánta* is less secure.

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[7]Cf. also the common Attic middle ipv. ἰδού 'Look! Behold!' < *$\underset{\circ}{u}ideso$.

5.3 Other

- **ἔγρετο**: oldest extant aor. of $*h_1ger$ 'wake up' (cf. LIV²: 245: thematized root aorist). Old stative perf. Ved. *jagā́ra*, YAv. *jaγāra*, Gk. ἐγρήγορε 'is awake'), potentially old full grade thematic pres. Ved. *járate* 'is waking up' → good candidate for an old proto-middle aorist both from a semantic ("woke up") and a morphological point of view, but lacks the relevant comparanda in IIr.
- **ἐπιθόμην**: oldest aorist of $*b^heid^h$ 'come to trust, have faith in sbdy.'; full grade thematic middle pres. πείθομαι (cf. also Lat. *fīdō* 'trust', Goth. *beidan* 'wait'), stative perf. Gk. πέποιθα; but lacks the relevant comparanda in IIr.
- Similar situation: **ἐσπόμην** 'followed': full grade middle pres. ἕπομαι $< *sek^u$ 'accompany, follow'; could have traces of an older middle root aor. in IIr., crucially the ptcp. Ved. *sacāná-* (1x, RV 6.20.2). Could point to an older (proto-)middle root aor., which in Vedic would have developed into a middle or passive aor., but Lowe 2015 argues that *sacāná-* is an innovation, and the age of the other potential aorist forms in IIr. is likewise debated (cf. Narten 1964: 262, LIV²: 525f., Grestenberger 2016: 129).

6 Discussion

6.1 Summary & implications

- At least five cases in Indic (*juṣ, budh, mṛṣ, vid, hū*) and two cases in Greek (ἐπύθοντο, ἴδοντο) in which an apparent R(ø) thematic *middle* aorist (= 3pl. form in *-anta*, *-οντο*) arguably continues an older proto-middle ("h_2e-conjugation") aorist paradigm.
- Ved. *budhánta*: ἐπύθοντο< late PIE/Pre-Graeco-Aryan 3pl. $*(e)b^hud^hónto \leftarrow *b^hud^hró$ (cf. Ved. passive aorist)
- Less secure: Ved. *vidánta*(?): Ion. Gk. ἴδοντο $< *\underset{\smile}{u}idónto$.
- *juṣánta, mṛṣanta*: no exact correspondences in Greek, but good internal reasons to assume Pre-Graeco-Aryan $*\hat{g}usónto$, $*mṛsónto$.
- Even less secure: *áh(u)vanta* $< *(e)\hat{g}^huHonto$; possible additional candidates in Vedic and Greek.

→ Suggests that one route of development for inherited middle aorists (especially *media tantum* aorists) continuing older "stative-intransitive" h_2e-conjugation aorists in Graeco-Aryan was via the introduction of a thematic 3pl. *-onto* that replaced the older, late PIE 3pl. ending *-ro*.

- Vedic: intermediate stage of this development; the relevant forms in *-anta* are associated with passive aor. paradigms and functionally alternate with 3pl. forms in *-ran* and *-ram*
- Greek: more advanced stage; thematic middle forms in *-onto* gave rise to full-blown thematic aor. paradigms.

This development seems to have taken place independently from the thematization of inherited *active* root aorists (such as those of Ved. *kṛ, gam*), which surface with full grade of the root and whose thematization seems to have begun in the 2sg. and 3sg. under the influence of the formally ambiguous 1sg. (cf. Cardona 1960: 22ff.).

The forms discussed above suggest that the introduction of a thematic 3pl. *-onto* instead of (or besides) the older ending *-ro* was a shared Graeco-Aryan innovation, possibly under the influence of the full grade thematic (active or middle) present stems often found with the same roots, as sketched out in (17):

(17)   a.   Late PIE: 3sg. $*b^h\acute{o}\underset{\smile}{u}d^h$-*e*, 3pl. $*b^hud^h$-*ró* 'awoke, became aware' (≈ Ved. *bódhi: ábudhran*) →
       b.   Pre-Graeco-Aryan: 3sg. $*b^h(\acute{o}?)\underset{\smile}{u}d^h$-*e(to?)*, 3pl. $*b^hud^h$-*ónto* 'awoke, became aware' (Ved. *budhánta*, Gk. ἐπύθοντο)
       c.   Pre-Greek: 3sg. $*b^h\underset{\smile}{u}d^h$-*é-to*, 3pl. $*b^hud^h$-*ónto* (Gr. ἐπύθετο, ἐπύθοντο)

Stage c., the backformation of singular thematic forms from the renewed 3pl. middle *-onto*, seems to have occurred independently in Vedic and Greek (contrast Ved. *juṣ* & Gk. πυθε/ο-).

- On the ultimate origin of thematic *-ont(o)* & the thematic endings in general cf., e.g., Watkins 1969: 84f., 105ff., Jasanoff 1998, 2003: 224ff.

6.2 *-anta* < *-ento?

An alternative solution for IIr.: a 3pl. athematic middle ending *-ento(i̯)*, reconstructed by, e.g., Rix 1992, Bendahman 1993, Harðarson 1993, Tichy 2009 for the Gk. 3pl. forms ἐπρίαντο $< *e$-$k^u rih_2$-*ento*, δίενται $<$ $*dih_1$-*entoi̯*, ἔθεντο $< *e$-d^hh_1-*ento*, and Ved. *yujanta* $< *\underset{\smile}{i}ug$-*ento*.

- Such a preform would straightforwardly have given -*anta* in Vedic, but requires additional assumptions in Greek to explain thematic -οντο in, e.g., ἵκοντο, ἐπύθοντο, both supposedly thematized root aorists, vs. ἐπρίαντο, ἔθεντο, where no thematization took place.[8]
- Moreover, the later replacement of *-*ento*, *-*entoi̯* by -*ate*, -*ata* in Vedic and by -αται, -ατο in Greek as the generalization of the zero-grade allomorph of the suffix (Bendahman 1993: 14) or through analogy with the endings of originally acrostatic paradigms (Harðarson 1993: 53) is problematic.

→ More economical to operate with *-*onto* for equations like Ved. *budhánta*: Gk. ἐπύθοντο, Ved. (?)*vidánta*: Gk. ἴδοντο, and Ved. *mr̥ṣanta*, *juṣanta*, etc., while Gk. ἔθεντο could come from **e-d*^{h}*h*$_1$*-n̥to* by regular sound change (cf. Rix 1992: 74, 248),[9] → no need for an additional 3pl. allomorph *-*ento(i̯)*.

7 Conclusion

- The 3pl. ending of inherited non-alternating middle aorists may have played a more important role in the development of (middle) thematic aorist paradigms in Graeco-Aryan than hitherto considered.
- Suggested by the equation Ved. *budhánta*: Gk. ἐπύθοντο and other middle aorists in -*anta*, -οντο *with a similar semantic and morphological profile.*
- Does not necessarily contradict the conclusion that "only two thematic aorists can be considered of *PIE* origin" (Cardona 1960: 123, emphasis mine, L.G.), but could clarify the later (specifically Graeco-Aryan) development of inherited proto-middle aorists.

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[8] Rix 1992: 210f. and Harðarson 1993: 155 assume that the thematization started in the 3pl. with the replacement of active *-*ent* by *-*ont* and middle *-*ento* by *-*onto*, but no such thematization ever took place in the continuants of conspicuous inherited root aorists like ἔβην, ἔστην, ἔθη[κα], ἔφῡ (or presents like εἰμί, εἶμι, φημί). Moreover, athematic 3pl. aor. forms were usually replaced with the "alphathematic" or sigmatic endings -αν < *-*n̥t* or -σαν < *-*s-n̥t*, cf. 3pl. ἔβᾰν < **g*$^{\text{u̯}}$*h*$_2$*-ent* vs. ἔβησαν, etc. Although thematic -ονται sometimes replaced athematic -αται in certain athematic *presents*, this does not seem to have happened systematically in the aorist.

[9] Whether ἐπρίαντο and δίενται can be derived in the same way from **e-k*$^{\text{u̯}}$*rih*$_2$*-n̥to* and **dih*$_1$*-n̥toi̯*, respectively, is less clear.

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