On some eccentric *i-stems in Indo-European compounds

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1 Introduction

Some classic puzzles in PIE morphology are found in compounds, e.g., unexpected First Member of Compound (FMC)[1]:

- Caland system: a primary adjective used as FMC is descriptively replaced by an adjectival abstract, usually an *i-stem (Nussbaum 1976, 1999, Schindler 1986, Balles 2006, 2009, Rau 2009, Malzahn In press, etc.)

(1)   Caland FMC
   a.   Ved. *r̥jrá-* 'swift' : *r̥jí-śvan-* 'having swift dogs'
   b.   Av. *tiγra-* 'sharp' : *tižii-aršti-* 'having a sharp spear'
   c.   Gk. κῡδρός 'famous' : κῡδι-άνειρα 'making men famous'

Unexpected Second Member of Compound (SMC): masculine *$\bar{a}$-stems in VGC in Greek and Latin (Fellner and Grestenberger Forthcoming):

(2)   *$\bar{a}$-stem VGC:
   a.   Gk. βαθυ-δίνης 'deep-eddying', βου-ζύγης 'cattle-yoking, -yoker'
   b.   Lat. *agri-cola* 'country-dweller; farmer', *lēge-rupa* 'law-breaker'

Another puzzle: In some IE languages, an *-o-stem (or *-$\bar{a}$-stem) is replaced by an *-i-stem SMC.

- unexpected SMC (cp. (2))
- appear to substitute for another stem (cp. (1))
- function not clear (generally claimed to be original to Bahuvrīhis: Jacobsohn 1928, Specht 1935, AiG II,1: 105, Uhlich 1993, Malzahn In press), but see the ex. below.

1.1   -i- in compounds

(3)   Latin
   a.   *somnus* 'sleep' → *in-somnis* 'sleepless'
   b.   *iugum* 'yoke' → *bi-iugis* 'with two yokes'
   c.   *anima* 'soul' → *ex-animis* 'soulless'
   d.   *annus* 'year' → *per-ennis* 'throughout the year; everlasting'

(4)   Old Irish (Thurneysen 2003: 218)
   a.   *cenél* 'kind, race' → *so-chenéuil*
   b.   *cenn* 'head' → *in-chinn* 'brain' (< *en-$k^u enni$- 'in the head')
   c.   *galar* 'disease' → *ingalair* 'sick

(5)   Greek
   a.   ἀλκή 'strength' → ἄν-αλκ-ι-ς 'without strength'

(6)   Armenian (Olsen 1999: 709f.)
   a.   *arat, -oy* 'blemish, stain' → *an-arat-ic^c* 'unblemished, having no blemish' (gen./dat./abl.pl.)
   b.   *hawat, -oy* 'faith' → *an-hawat-ic^c* 'unfaithful'

(7)   Avestan
   a.   *miθra* 'Mitra' → *auui-miθr-i* 'against Mitra, enemy of Mitra'

    b.   *stāna-* m. 'stable', *uštrō-stāna-* m. 'camel stable' → *uštrō-stāni-* 'camel stable' (definite?)[2]

    c.   *maēša-* m. 'sheep' → *daβra-maēši-* (personal name) 'having fat sheep' (Yt.13.122)

→ predominantly in possessive compounds (Bahuvrīhis) in Latin, Armenian, and Old Irish, but note the prepositional governing compounds in Old Irish

- Indo-Iranian: few *i*-Bahuvrīhis and therefore usually left aside in discussions of compositional -*i*- in SMC
- ... but quite a few VGC

- What is the function of -*i*- in Vedic SMC? Are there any corresponding (adjectival) *a*-stems?
- Why do *i*-stems turn up in *endo*centric compounds in Vedic, when the other languages tell us that *i*-SMC are preferred in exocentric compounds?

1.2 Background: the suffix -*i*- in Indo-European

"*i*-substitution" has also been observed for simplex **i*-stems (Schindler 1980, Nussbaum 1999, 2014, Weiss 1996, Balles 2006...) and is inherited from PIE.

(8)   Derivation of *i*-stems in PIE

	1. Adjective	2. (m.) 'substantivized' adjective	3. (f.) abstract
PIE	*$h_2$ékro-* 'high'	*h_2ó/ékri-* 'high (one)'	*h_2ó/ékri-* 'height'
Ex.	Gk. ἄκρος 'high'	Lat. *ocris* m. 'mountain'	Gk. ἄκρις f. 'peak', Ved. °*áśri-* f. 'edge'

- The derivational basis of both substantivized adjectives and verbal abstracts was an **o*-adjective:

(9)   Masc. substantivized adjectives

    a.   Av. *tiγ-ra-* 'pointed, sharp' → *tiγ-ri-* m. 'pointed thing; arrow'

    b.   PIE **mn̥tó-* 'protruding' (Lat. *mentum* 'chin') → **mont-i-* 'protruding (one)' (Lat. *mōns* m. 'mountain')

    c.   Ved. *jīrá-* 'quick, lively' → *jīrí-* 'stream' (< 'quick, lively one'); *jñātá-* 'known' → *jñātí-* m. 'relative'

(10)   Fem. abstracts

    a.   Lat. *ravus* 'hoarse' → *ravis* f. 'hoarseness'

    b.   Gk. *argós* 'bright, shining; fast' → *argi-* 'brightness' (in compounds, cp. Ved. *r̥ji-* in *r̥jí-śvan-* 'having swift dogs')

    c.   OIr. *glan* 'clear' → *glain* f. 'glass; clearness' (Weiss 2013)

Semantics of (9): 'masculine endocentric substantivizations', comparable to definite adjectives in Germanic, Balto-Slavic, etc. (Nussbaum 2014)

- tend to develop into adjectives → semantic difference between adjectival base and (substantival) derivative not always clear-cut in the individual branches
- NB not clear how formally related *vr̥ddhi*-formations (patronyms, nouns of appurtenance) fit into this, e.g., *sarátha-* '(driving) the same chariot' → *sárathi-* m. 'co-driver', *agniveśa-* personal name → *ágniveśi-* 'descendant of Agniveśa', *purukútsa-* → *paúrukutsi-*. Not treated here.
- NB accent/ablaut pattern of the substantivization not clear
  - Gk. ἄκρος 'high' vs. Lat. *ocris* m., Gk. ἄκρις f.; Lat. *mentum* 'chin' vs. *mōns* m. 'mountain' suggest original **o/e* acrostatic paradigms
  - ... while cases like Ved. *jīrá-* 'quick, lively' : *jīrí-* 'stream', Gk. τροχός 'running' : τρόχις 'messenger', etc., suggest that the root ablaut grade was determined by the base

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- If the function of **-i*- was to make endocentric substantivizations, why do we find it in *exo*centric compounds?
- Is there a difference in attributive vs. predicative use for *a*- vs. *i*-stems in Vedic?

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[2]V.15.24; V.15 contains several other examples, e.g., V.15.27 *aspō.stānəm ... aspō.stāniš* 'horse stable', V.15.33 *pasuš.hastəm ... pasuš.hastiš* '*Pasu*-shed', and V. 15.36 *yō aētəm* **uzdaēzəm** *uzdišta yeíñh̊ vō aēšō* **uzdaēziš** *aŋhaṱ* (*daēza-* m. 'heaping, raising', *uz-daēza-* m. 'heaping up, mound' → *uz-daēzi-* m. 'mound, wall'?), but is syntactically difficult. Tremblay 1998: 102 interprets the *i*-stems in V.15 as "concretizations" (*substance concrète*), i.e., endocentric substantivizations, and claims that Avestan has no "*i*-Bahuvrīhis" at all (p. 98).

2   Vedic: Bahuvrīhi compounds

The number of Vedic (and IIr.) Bahuvrīhis with *i*- instead of *a*-stem SMC is small (AiG II,1: 105f.)[3]

- °*ardhi*-: *práty-ardhi*- 'possessing half of sth.; possessing equal parts' (2x) vs. *ardhá*- a. 'other (half)', *árdha*- m. 'half'
  - RV 10.26.5a *prátyardhir yajñā́nām* 'half-sharer of sacrifices'

  IIr., no etymology (*pace* Klingenschmitt 1980 not cognate with Lat. *orbis*, see Weiss 2006).
- °*gandhi*- 'smelling of X': *gandhá*- m. 'smell, fragrance'; IIr., no etymology.
  su-gándhi- 'having a pleasant fragrance; fragrant' (2x)
  - RV 7.59.12a-b: *trₓyambakaṃ yajāmahe sugándhim puṣṭivárdhanam* "We sacrifice to Tryambaka the fragrant, increaser of prosperity"

  ā́ñjana-gandhi- 'smelling of ointments' (RV 10.146.5), *dhūmá-gandhi*- 'smelling of smoke' (RV 1.162.15a)
- °*rādhi*- in *kṛṣṭá-rādhi*- 'successful in agriculture' (AV 8.10.24), vs. *rādha*- 'gift, bounty' (2x RV, but *s*-stem *rā́dhas*- is much more common).
  - AVŚ 8.10.24 *té kṛṣíṃ ca sasyáṃ ca manuṣyā̀ úpa jīvanti kṛṣṭárādhir upajīvanī́yo bhavati yá eváṃ véda* "upon those two, both cultivation and grain, men subsist; successful by what is cultivated (*kṛṣṭá*-), one to be subsisted upon, becometh he who knoweth thus." (Whitney 1905: 514)

These are clearly different animals than Bahuvrīhis with a *synchronic i*-stem SMC, e.g., *agní*- m. 'fire' : *sv-agní*- a. 'having a good fire', *yóni*- m. 'lap, seat, site' : *diví-yoni*- a. 'sky-born, whose seat is in the sky', etc.

3   Vedic: verbal governing compounds

Synchronically, most Rigvedic compounds with an *i*-stem SMC are endocentric verbal governing compounds, with accent on the SMC → unexpected given the traditional "Bahuvrīhi-*-i-*" generalization, but:

- Schindler 1997 (and in class): VGC with governing second member are diachronically Bahuvrīhis
  - ταχυ-βάμων *'with quick steps, having a quick step' → 'walking quickly'

So every *i*-SMC goes back to an old adjectival/verbal abstract? Not the best solution:

- No corresponding simplex adjectival/verbal **i-abstracts (see below)
- No internally derived SMC (cp. *jā́nu*- n. 'knee' → *mitá-jñu*- 'having straight knees', *ū́dhar* n., (gen. *ū́dhnas*) → *tri-ŭdhá* 'having three udders', etc.)
- Independent evidence from simplex nouns that one of the functions of **-i-* was to make endocentric nouns

3.1   Oxytone, deverbal

3.1.1   °*tuji*- 'pushing, driving'

ā-tují- 'pushing oneself towards', 1x, predicative. No *a*-stem.

RV 7.66.18:	divó dhā́mabhir varuṇa	mitráś cā́ yātam adrúhā |
	píbataṃ sómam ātují ||	
	"From heaven through your domains, o Varuṇa and Mitra, you who are without deception – travel here. Drink the soma, thrusting yourselves toward it."	

Cp. *tútuji*- 'driving repeatedly, hurrying' vs. *tūtijí*- (m.) 'driver, inciter, pusher' in RV 10.22.3b *mahó nṛmṇásya tūtujíḥ* 'inciter of great manliness' (Grestenberger 2013)

3.1.2   °*yaji*- 'sacrificing'

ā-yají- 'sacrificing, sacrificer', Jamison and Brereton 2014 'win (goods) by sacrifice', 2x, predicative, e.g.:

RV 1.28.7:	**āyají** vājasā́tamā	**tā́** hₓy uccā́ vijarbhṛtáḥ |
	hárī 'vándhāṃsi bápsatā ||	
	"These two [=mortar and pestle? / jaws of the soma press?] gain by sacrifice and are the best prizewinners, since they keep pulling apart above, chewing the stalks like a pair of fallow bays."	

No *a*-stem; cp. the root noun in, e.g., *su-yáj*- 'sacrificing well', *divi-yáj*- 'sacrificing in the light of day', etc.

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[3]All translations from Jamison and Brereton 2014 except where indicated.

3.2 Paroxytone, denominal/deverbal

3.2.1 °*tani*- 'spanning, stretching'

ā-táni- 'pervading, stretching out', 1x, predicative. Also Ved. *tána*- adj. 'spanning, continuing', n. 'offspring' (< 'that which stretches out, spans'), *tán*- a. 'continuous, pervasive', f. 'continuity' (also 'offspring'). Synchronically deverbal (*ā́ tan* 'stretch (out), span sth.').

> RV 2.1.10d: t$_u$vám **viśíkṣur** asi **yajñám ātániḥ** ||
>   "You seek to carve up and to stretch out the sacrifice."

3.2.2 °*bhari*- 'bringing, -bringer'

saho-bhári- 'bringing victory', 1x, predicative:

> RV 5.44.3:   átyaṃ havíḥ sacate sác ca dhā́tu ca   **áriṣṭagātuḥ sá hótā sahobháriḥ** |
>   prasársrāṇo ánu barhír vŕ̥ṣā śíśur   mádhye yúvā ajáro visrúhā hitáḥ ||
>   "The steed does the oblation follow (and) its [=oblation's] elements are true;
>   the Hotar who goes without harm brings might. Always stretching out along
>   the ritual grass, the bullish child, the unaging youth is placed in the middle
>   with his outgrowth."

(11)   Compounds in °*bhará*-:
   a.   *antarā-bhará*- 'bringing near': RV 8.21.12b-c: attributive: *dā́navaṁ antarābharáḥ índro* … "(Indra) who has gifts and brings them near"
   b.   *puṣṭim-bhará*- 'bringing growth, prosperity': RV 4.3.7a, attributive: *kathā́ mahé puṣṭimbharā́ya pūṣṇé* "How (will you speak) to great Pūṣan who brings prosperity, …?"
   c.   *vājam-bhará*- 'bringing prizes', e.g., RV 10.80.1a, attributive: *agnéḥ sáptiṃ vājambharám dadāti* "Agni gives a prize-bringing team"

- Attributive use prevails with °*bhará*-, vs. only instance of °*bhari*- = predicative (not enough for a generalization)
- but: paroxytone accent unexpected if this is a substantivization of the accented *a*-stem, whereas *bhára*- m '(act of) bearing, carrying off; gains, plunder' is an unlikely derivational basis
- Why °*bhará*- and °*bhŕ̥-t*-? *pitu-bhŕ̥t*- 'bringing nourishment', *vajra-bhŕ̥t*- 'Vajra-carrying', etc. (NB shape of the FMC → stem- rather than root-derived, cp. Schindler 1997 on *agnim-indhá*- 'lighting the fire', etc.)

3.2.3 °*mathi*- 'robbing, stealing'

No *a*-stem; root noun *máth*- in *sunirmáthā*, RV 3.29.12. *havir-máthi*- 'oblation-stealing', 1x, appositional (RV 7.104.21a-b:), *urā-máthi*- 'sheep-robbing', 1x, predicative/appositional (RV 8.66.8), *vastra-máthi*- 'robbing clothes', 1x, attributive (RV 4.38.5).

> RV 8.66.8a-b: **vŕ̥kaś** cid asya vāraṇá **urāmáthir**   ā́ vayúneṣu bhūṣati |
>   "Even a wolf – wild and sheep-stealing – attends to its own patterns"

3.2.4 °*muri*- 'obstructing'

ā-múri- 'obstructing, one who obstructs', 1x, predicative/appositional (RV 8.97.10). No *a*-stem, but root noun *múr*- (also *āmúr*-) 'obstruction, hindrance'[4]

3.2.5 °*rakṣi*- 'protecting'

pathi-rákṣi- 'path-protector', 1x, predicative:

> RV 10.14.11a-b: **yáu** te śuvā́nau yama rakṣitā́rau   caturakṣáu **pathirákṣī** nr̥cákṣasau |
>   "Your two dogs, Yama, who are guardians, four-eyed guards of the path with
>   their eyes on men …"

paśu-rákṣi- 'shepherd; cattle-protector', 1x, substantive. No *a*-stem (secondary *seṭ* root? Scarlata 1999: 443f.).

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[4]NB °*muri*- cannot have come from the root noun paradigm by regular sound change, cp. Grestenberger 2014 and more generally Klingenschmitt 1980, Jamison 1988 for arguments against such an analysis.

3.2.6 °*vani*- 'winning, gaining'

upamāti-váni- 'winning the distributions', 1x, predicative (RV 5.41.16); *r̥ju-váni*- 'obtaining the right things; rightfully', 1x, appositional (predicative?):

> RV 5.41.15c-d: síṣaktu mātā́ mahī́ rasā́ naḥ   smát sūríbhir r̥juhásta **r̥juvániḥ** ||
> "Let the mother, the great Rasā, accompany us along with our patrons, she
> with hands outstretched, with winnings outstretched."

SMC = *vaní*- f. 'wish, desire' (AV)? Unlikely because of accent & semantics[5]; 'winning rightfully' for RV 5.41.15 just as good and more in line with *vr̥ṣṭi-váni*- 'winning rain', 1x, attributive (RV 10.98.7c-d), *vasuváni*- 'winning goods', 1x, predicative.

> RV 7.1.23c-d: sá devátā **vasuvániṃ** dadhāti   yáṃ sūrír arthī́ pr̥chámāna éti ||
> "He [=Agni or the mortal] establishes him [=the mortal or Agni] as one who gains
> goods among the gods, the one to whom the inquiring patron goes, seeking his ends."

3.2.7 °*sani*- 'winning'

pitu-ṣáni- 'winning sustenance', 1x, predicative; *vāja-sáni*- 'winning prizes', 3x, predicative/appositional (RV 3.51.2, 9.110.11) & attributive (RV 10.91.15):
hr̥daṃ-sáni- 'winning someone's heart', 1x, predicative (RV 9.61.14c *yá índrasya hr̥daṃsániḥ* "who gains the heart of Indra"); *go-ṣáṇi*- 'winning cows', 1x, predicative.

> RV 6.53.10: utá no **goṣáṇiṃ dhíyam**   aśvasā́ṃ vājasā́ṃ utá |
> nr̥vát **kr̥ṇuhi** vītáye ||
> "And make our poetic vision cow-winning for us, horse-winning, and prizewinning,
> make it manfully to be pursued."

Also *sána*-: *su-ṣáṇa*- 'easy to win' in RV 1.42.6c *dhánāni suṣáṇā kr̥dhi* 'make the stakes easy for us to win.'

- Accent and meaning make identification of the SMC with *saní*- m. 'prize, thing won, plunder' unlikely (but see Scarlata 1999: 582)
- ... but note the *passive* reading of *su-ṣáṇa*-!
- Cp. compounds with roon noun *sā́*-, e.g., *aśva-sā́*- 'winning horses', *go-ṣā́*- besides *go-ṣáṇi*-, etc. (unlikely that the *i*-stem paradigm comes from that of the root noun, cp. Scarlata 1999: 577ff.)

3.2.8 °*svani*- 'roaring, sounding'

tuvi-ṣváṇi- 'resounding mightily', 7x, usually predicative/appositional, e.g.:

> RV 1.127.6a **sá** hí śárdho ná mā́rutaṃ **tuviṣváṇir**
> "For he is very noisy like the Marut troop, ..."

mahiṣváṇi- 'roaring greatly', 1x substantival, RV 8.46.18. Also *a*-stem *svaná*- m. 'roaring, thundering, thunder' (14x), cp. *vā́ta-svana*- 'roaring like the wind' (RV 8.102.5, attributive)

3.2.9 °*dari*- 'splitting, splitter'

go-dari- 'cow-splitter' (epithet of Indra), 1x in RV 8.92.11, besides °*dará*- 'splitting, splitter': *puraṃ-dará*- 'fortress-splitter' (epithet of Indra; Agni), 11x, always with inflected noun as first member of compound (FMC), substantival/predicative, e.g.:

> RV 8.1.8a-b: prá́smai gāyatrám arcata   vāvā́tur **yáḥ puraṃdaráḥ** |
> "Chant forth a song to him who cleaves strongholds for his favorite"

- Also *ā-dārá*- (+ gen) 'one who opens, makes accessible' (RV 1.46.5), < *dor-ó-? (originally *aniṭ*, EWA I: 701f.)
- °*dari*-, °*dara*-: lack of Lex Brugmann suggests *e*-grade of the root (*seṭ* variant unlikely because the first syllable is never heavy; and see °*duri*- below)

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[5]Root $\sqrt{van^i}$ 'wish' rather than $\sqrt{van}$ 'win', but those are notoriously difficult to distinguish and *van* 'win' develops *seṭ* behavior in analogy with *san^i* 'win'. Scarlata 1999 notes that the first syllable of °*vani*- is heavy in RV 5.41.15 and 5.41.16, and probably also in 7.1.23 and 10.98.7, suggesting a preform *°*u̯o/enH-i*-.

3.3 Denominal

3.3.1 °*duri-* 'splitting'

ā-duri-, personal name in voc. ('one who splits open, makes accessible', RV 4.30.24), EWA I: 703: < *°*dr̥H-i-* (vs. *aniṭ*-version *dari-*?). Also RV *durá-* m. 'breaker, splitter', RV 1.53.2 (+gen., EWA I: 732).

- Ved. *ádri-* m. 'rock' < *°*n̥-dr-i* 'not splitting'? (cp. EWA I: 65) Would be a nice contrast to full grade (*aniṭ*) °*dari-*, but too uncertain.

3.3.2 °*dhi-* 'place, placement'

°*dhi-* is found in SMC of Tatpuruṣa compounds and belongs to *dhā* 'put, place', e.g. *ādhí-* m 'deposit', *paridhí-* m 'enclosure', *apidhí-* m 'cover', *udadhí-* m 'water container; cloud', etc.

- More likely an original *i*-stem *$d^h h_1$-*í-* than from the root noun *dhā́-* (cp. Jamison 1988)
- Derivational basis *$d^h h_1$-*ó-* may be attested in, e.g., AV *nāma-dhá-* 'name-giving' (but RV *nāma-dhā́-*), *ratna-dhá-* 'allocating goods' (besides more common *ratna-dhā́-*) and maybe Gk. ἀγαθός 'good' (< *$m̥ĝh_2$-*$d^h h_1$-*ó-*, NIL: 100)
- Derivation: X-*$d^h h_1 ó$-* 'placing, setting down X' → X-*$d^h h_1 í$-* 'X-place, X-placement'

3.3.3 °*gri-*

tuvi-grí-, epithet of Indra, besides *tuvi-grá-* (both hapax in the RV) < *tuvi°* 'strong, much' + *°*$g^u r h_3$-*o/i-* 'much-devouring'? (EWA I: I, 659, *$g^u erh_3$* 'devour'; loss of the laryngeal through the νεογνός-rule, cp. Mayrhofer 2005: 98ff.). Geldner 1951 'laut schreiend, lautrufend' ('yelling loudly'), Jamison and Brereton 2014 'powerfully spirited' (°*vigrá-* 'lively, strong'?) for both instances.

RV 2.21.2:	abhibhúve *a*bhibhaṅgā́ya vanvate	*á*ṣāḷhāya sáhamānāya vedháse |
	tuvigráye váhnaye duṣṭárītave	satrāsā́he náma índrāya vocata ||

"To him dominating, breaking, conquering, to the never overpowered, overpowering adept; to him, the powerfully spirited draught horse, impossible to surpass; to him overpowering in every way–to Indra speak homage."

RV 1.140.9a-b:	adhīvāsám pári mātū́ rihánn áha	**tuvigrébhiḥ sátvabhir** yāti ví jráyaḥ |

"Licking all around his mother's [=earth's] over-garment, he drives across the expanse with his powerfully spirited warriors, ..."
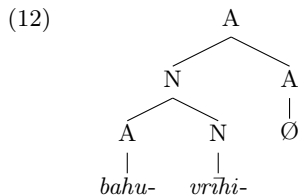
No metrical reason for the variation, both instances occur at the beginning of a Jagatī line. Both attributive.

4 Conclusion

- Only a small group of Vedic compounds with *i*-stem SMC are synchronically Bahuvrīhis
- Neither these nor the VGC usually have a corresponding simplex *i*-stem. Exceptions:
    - *saní-* m. vs. °*sáni-* (*rábhi-* f. 'pillar, support' vs. °*rabhí-* in *su-rabhí-* 'fragant'?)
- A few are matched by a synchronic simplex (or SMC) *a*-stem:
    - All Bahuvrīhis, as expected: °*ardhi-* : *árdha-*, °*gandhi-* : *gandhá-*, °*rādhi-* : *rādha-* (?)
    - 6/12 VGC: °*táni-* : *tána-*, °*bhári-* : °*bhará-* (or rather *bhára-* m. ?), °*sáni-* : °*sána-* (?), °*sváni-* : (°)*svaná-*, °*dari* : °*dará-*, °*duri-* : *durá-*, and probably also °*dhí-* : °*dhá-*, °*grí-* : °*grá-*.
- predicative (or "non-attributive") use prevails for the VGC in -*i*-; if a comparable *a*-stem exists, it seems to be used attributively — but there are not many examples; given metrical considerations, etc., this should not be overstated.
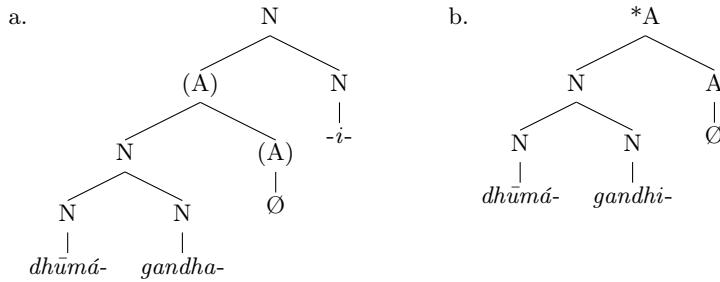
4.1 Analysis: Bahuvrīhis

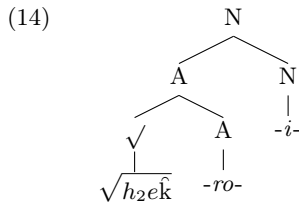Structure of Bahuvrīhis (cp. Baker and Bobaljik 2002, Fellner 2011):

(12)
```
              A
            /   \
           N     A
          / \    |
         A   N   Ø
         |   |
      bahu- vrīhi-
```

... but the structure for Bahuvrīhis with "*i*-substitution" must be (13-a), NOT (13-b):

(13)   *i*-Bahuvrīhis

a.
```
                    N
              _____|_____
            (A)            N
          ___|___          |
         N      (A)        -i-
       __|__     |
      N     N    Ø
      |     |
  dhūmá-  gandha-
```

b.
```
              *A
          _____|_____
         N           A
       __|__         |
      N     N        Ø
      |     |
  dhūmá-  gandhi-
```

- ... because there's no simplex *gandhi-
- -*i*- is a derivational suffix that selects *nominal stems* (orginally adjectives (?); I use "A" for convenience' sake here)
- (13-a) is descriptively *endocentric* (-*i*- is the head)
- Note that this also gives us the structure for the corresponding simplex nouns (also endocentric):
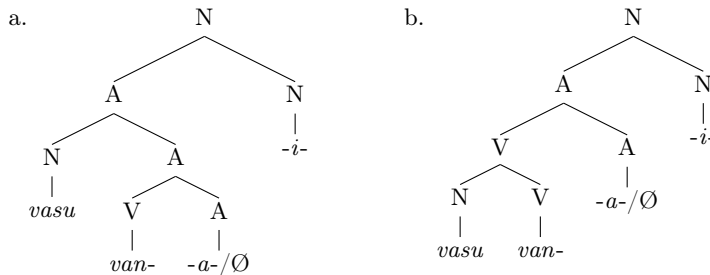
(14)
```
              N
          ____|____
         A         N
       __|__       |
      √    A       -i-
      |    |
  √h₂ek̂  -ro-
```

- Additional assumption for (early?) PIE: phonological rule that deletes/suppresses the theme vowel before -*i*-

4.2   VGC

Structure of VGC: two possibilities:

(15)   Two types of VGC

a.
```
                 N
            _____|_____
           A           N
        ___|___        |
       N       A       -i-
       |     __|__
     vasu   V     A
            |     |
          van-  -a-/Ø
```

b.
```
                 N
            _____|_____
           A           N
        ___|___        |
       V       A       -i-
     __|__     |
    N     V  -a-/Ø
    |     |
  vasu  van-
```

- (15-a): [vasu] + [vana] + -*i*-
- (15-b): [vasu van-] + -*a*- + -*i*-, the nominalizer ("A") attaches to the verb phrase (verb + direct object), cp. Harley 2009 on Engl. *truck-driver* compounds (where A = nP)
- -*i*- selects category A in both cases

Can we decide between these two structures?

- Preverbs: [ā́ *tuj*]$_V$ + -*i*-, [ā́ *yaj*] + -*i*- → (15-b)
    - Preverbs start out close to the root/verbal stem; they don't combine with nouns
- Structure of the FMC: *vā́jam-bhará-* vs. *vā́ja-sani-*:
    - Cp. *dhanaṃ-jayá-* 'conquering wealth', *apsu-ṣád-* 'dwelling in the waters', cp. AiG II,1: 45f.; the SMC = participle (*vel sim.*), Schindler 1997: derived from the verbal stem rather than the verbal root
    - Harley 2009: (bare) noun incorporation (nP instead of DP) suggests (15-b). Case, number inflection on FMC a diagnostic for (15-a)? Problem: no clear generalization here; and some FMC are formally ambiguous
- Ablaut grade of the SMC (Alan Nussbaum, p.c.):
    - Full grade: °*yaji*-, °*bhari*-, °*tani*-, °*vani*-, °*sani*-, °*svani*-, °*dari*- → (15-a)?
    - Zero grade: °*tuji*-, °*mathi*-, °*muri*-, °*gṛbhi*-, °*duri*-, °*dhi*-, °*gri*- → (15-b)?

4.3 Exo- or endo-?

- If *-*i*- was some kind of definiteness marker/derivational nominalizing suffix that originally selected "A", the question becomes moot → (13-a), (14) and (15) are identical w.r.t. this selectional criterion.
- In that sense, *-*i*- in SMC of Bahuvrīhis is not necessarily more archaic than in VGC (see Vedic)
- And note that (13-a) and (15-a) are structurally fairly similar—if the SMC was reanalyzed as abstract noun rather than agentive participle (or vice versa), we get the exo- ⇔ endo-ambiguity that Schindler famously remarked on.

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