bhūtakaraṇa- or *āgama-*?
The subtractive semantics of the augment in the *Ṛgveda*

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1 Introduction

1.1 It is often said that the augment (*á-*) of Vedic marks the "past" tenses: Aorist, Imperfect, and Pluperfect indicative (e.g., Kiparsky 2005:220, 230, Macdonell 1916:122).

1.2 These are distinguished from the augmentless forms of the verb, known (somewhat misleadingly) as the "injunctive."

1.3 Both the augmented and the augmentless forms take the set of endings known as "secondary" ($\approx$ past endings).

1.4 Yet the injunctive Present and Aorist forms, which lack the augment, may nevertheless have indicatival (i.e., *realis*) past meaning. So it is not clear in what sense we are to think of the augment as "marking" past tense.

1.5 Both the primary and the secondary endings have modal and indicative uses.

    <u>primary endings</u>: Present indicative, Future indicative, subjunctive, desiderative.

    <u>secondary endings</u>: augmented past tenses, injunctive, optative/precative, subjunctive, imperative.

1.6 The injunctive *in its indicatival uses* stands in contrast to the Present indicative as an expression of "past" indicative, just as the augmented forms do. See Table 1.

use ↓	PRIMARY ENDINGS	SECONDARY ENDINGS	
indicatival (*realis*)	**present indicative** future indicative(?) perfect ind. mid.	**injunctive** **augmented indicative** [conditional] (plu)perfect ind.	} partial redundancy
modal (*irrealis*)	subjunctive desiderative [1st pers. ipv. mid.]	subjunctive desiderative imperative optative/precative injunctive	

Table 1: Use of endings

1.7 As many have pointed out (see below), if the secondary endings (≈ past endings) stand in contrast to the primary endings (≈ non-past endings) in this way, the augment is at least partially redundant in the Vedic (and IE) verbal system.

1.8 I here examine the range of meanings available to the augmented and augmentless secondary (= "past") tenses in a sample of the text of the *R̥gveda* (*RV*) in order to determine the precise semantic contribution of the augment in early Vedic Sanskrit.

1.9 Crucial to this analysis are examples like (1), where the augmented and augmentless form of the verb may have the exact same non-modal meaning ((1a) and (1b)), but the augmentless form also attests modal uses (1c).

(1) INDICATIVE SHOWING FEWER READINGS THAN THE INJUNCTIVE TO $\sqrt{dh\underset{\circ}{r}}$- 'HOLD'

a. <u>*realis* IMPERFECT INDICATIVE</u>: ***ádhārayat** pr̥thivī́m viśvádhāyasam ástabhnān māyáyā diyā́m avasrásaḥ* (*RV* II.17.5cd).

'He **made fast**[Ipf.] the all-nurturing earth, and by his wiles he propped up[Ipf.] the heaven (to keep it) from falling' (tr. Jamison and Brereton 2014:425).

b. <u>*realis* PRESENT INJUNCTIVE</u>: *sá **dhārayat** pr̥thivī́m paprā́thac ca* (*RV* II.15.2c).

'He **held** the earth **fast**[Prs.inj.] and spread it out[Pf.inj.]' (tr. Jamison and Brereton 2014:422).

BUT:

c. <u>*irrealis* PRESENT INJUNCTIVE (GNOMIC)</u>: *tisró bhū́mīr **dhārayan** trī́m̐r utá dyū́n* (*RV* II.27.8a).

'They **uphold**[Prs.inj.] the three earths and the three heavens.' (tr. Jamison and Brereton 2014:440).

1.10 Hence, the augment in and of itself cannot be contributing the meaning [+past].

1.11 As we shall see, the augment does not *add* anything to the meaning of the verb, *per se*, but rather *restricts* the set of possible interpretations available to the injunctive forms to just that of its indicatival (i.e., *realis*) meanings.

1.12 In other words, the augment is fundamentally non-modal and only incidentally past.

2 Augment as a marker of the past, of the present, or of "actual occurrence"?

2.1 Prior accounts

2.1.1 The augment *a-* in Sanskrit, along with its cognate in Greek (ἐ-), is often said to be a "marker" of past tense.

2.1.2 Yet those who have remarked on its function have in general also noticed that the "heavy lifting" of past marking is done by the secondary endings, and the principal tense opposition relies on the contrast of the secondary endings with the primary endings.

- Thus, most recently, Lundquist and Yates (2018:2141) note that the augment "looks…like an emerging, additional marker of [past]."

- Some have made the stronger claim that the augment "marks the past tense redundantly" (Bartolotta 2009:514–5), since the secondary endings could in principle achieve this all on their own, as they do in other IE languages (e.g., Hittite) (similarly Napoli 2006:47, Ö. Dahl 1985:83).

- The apparent lack of distinctive function for the augment is implicit in all these accounts.

2.1.3 Against the traditional account that the augment marks [+past] is the fact that the Vedic augmented Aorist "may nearly always be translated by the English present perfect," as it "expresses that an action has occurred in the past with reference to the present" (Macdonell 1916:345).

    i. The fact that the (augmented) Aorist in Vedic "nearly always" has *present* perfect meaning—of the type best translated by the English *have*-Perfect—is at odds with supposing that the augment marks past tense.

      (2)   Present perfect reading of the Aorist indicative

          *ví uṣā́ **āvo** divijā́ r̥téna* (*RV* VII.75.1a).

          'Dawn, born in heaven, **has dawned**[Aor.ind] widely with her truth' (tr. Jamison and Brereton 2014:977).[1]

    ii. If the augment of the *R̥gveda* marked past tense, then the augmented Aorist would be predicted not to have this kind of present reference—at least not "nearly always."

   iii. Yet it does, and it does so with greater frequency, in Vedic as in Homer (Bakker 1999, 2005:126–7), than does its augmentless counterpart.

2.1.4 On the other hand, Wackernagel (1926–8 [2009]:203, 233), with characteristic care, notes an alternative use of the augment, at least in Greek:

> The augment…has the task of denoting the past in the verb—although this is not its only task…we have to understand that the aorist is used without any temporal reference in order to express the essential meaning of the aorist aspect. Admittedly, **we must then assume that the augment…marks not past time but actual occurrence**.

2.1.5 Of the accounts surveyed so far, it seems that Wackernagel's (1926–8 [2009]:233) suggestion, that the augment marks neither the present nor (necessarily) the past, is most in line with the R̥gvedic data.

2.2   The matter of the "*hic-et-nunc* particle"

2.2.1 Despite the augment's frequent comparison with the "*hic-et-nunc*" particle -*i* (e.g., Kiparsky 2005:220), the two are not synchronically parallel.

   2.2.1.1 The primary endings do not all contain an -*i*, nor do they consist solely of the secondary endings plus -*i*, so it cannot be the -*i* alone that contributes the semantic content of being "non-past" or "primary."

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1. *āvas* < *(h_1)é-h_2u̯es-t*. See E. Dahl 2010:264–6 for further examples of the Aorist indicative under the scope of *nú* and *nūnám* 'now'.

2.2.1.2 Formally speaking, the Present indicative cannot be arrived at simply by adding *-i* to any form of the injunctive one might choose, as the past indicative forms can by adding *á-*.

Table 2: Primary endings							Table 3: Secondary endings					
	active			mediopassive				active			mediopassive		
	sg.	du.	pl.	sg.	du.	pl.		sg.	du.	pl.	sg.	du.	pl.
1	*-mi*	*-vás*	*-más(i)*	*-é*	*-váhe*	*-máhe*	1	*-am*	*-vá*	*-má*	*-í/ -á*	*-váhi*	*-máhi*
2	*-si*	*-thás*	*-thá*	*-sé*	*-ắthe*	*-dhvé*	2	*-s*	*-tám*	*-tá(na)*	*-thắs*	*-ắthām*	*-dhvám*
3	*-ti*	*-tás*	*-á(n)ti*	*-té*	*-ắte*	*-á(n)te*	3	*-t*	*-tắm*	*-án/úr*	*-tá/ -i*	*-ắtām*	*-á(n)ta/-rán/m*

2.2.1.3 For the Perfect, the "*hic-et-nunc*" particle is even less helpful, as its addition to the Perfect injunctive would in no case yield the Perfect indicative, which has a special series of endings, but would produce forms that do not exist.

2.2.1.4 This is summarized in (3)–(4).

(3) NON-COMPOSITIONALITY OF THE "*HIC-ET-NUNC* PARTICLE"

Pf. inj. *cikét(-t)* + *-i* ⇏ Pf. ind. *cikét-a* 'she perceives'

Prs. inj. *kr̥ṇu-tá* + *-i* ⇏ Prs. ind. *kr̥ṇu-thá* 'you (pl.) make'

BUT:

(4) COMPOSITIONALITY OF THE AUGMENT

Pf. inj. *á-* + *cikét(-t)* ⇒ Plpf. ind. *á-cikét(-t)* 'she perceived'

Prs. inj. *á-* + *kr̥ṇu-tá* ⇒ Ipf. ind. *á-kr̥ṇu-ta* 'you (pl.) made'

2.2.2 Thus, we find in Sanskrit two sets of endings—primary and secondary—*not* two tense-marking affixes—the augment and the "*hic-et-nunc* particle."

2.2.3 I thus claim that the augment and *-i* are not parallel at all but fundamentally different in their classification.

  i. The augment is a morpheme that behaves essentially like an adverb (see below).

  ii. The *-i* of the primary endings is just part of the phonological material that makes up (some of) these endings.

  iii. Further, while the *-i* is not restricted to the indicative (*pace* Kiparsky 2005:230), the augment *á-* is.

2.3   Kiparsky 2005: The injunctive as "unspecified" for tense and mood

2.3.1 The injunctive is not a mood—"memorative" or otherwise (cf. Hoffmann 1967)—but a verb form unspecified for mood and tense.

2.3.2 Kiparsky (2005:221) describes the present as the unmarked tense and the indicative as the unmarked mood, but the injunctive as unspecified for either of these features. The difference is an important one, which he explains as follows:

The difference between unmarked and unspecified status is that forms which are unmarked for a feature or category receive a default specification for that feature or category, while forms which are unspecified for a feature or category do not register it at all. Injunctives remain lexically unspecified for tense and mood, just as they remain unspecified for, say, evidentiality, or frustrativity, or whatever other morphological categories play no role in the language…This interpretation is in fact typologically unexceptionable.[2]

2.3.3 Yet Kiparsky (2005:230) still assumes that the augment is the marker of past tense:

- "In Indo-European, tense was restricted to past and present, respectively marked by the prefix ("augment") *e-* and the suffix -*i* (at least in the branch to which Sanskrit belongs)."

2.3.4 He offers the following example to $\sqrt{kṛ}$- 'make, do'.

(5) *kṛ-ṇó-t* (injunctive – tenseless) [0past]
     kṛ-ṇó-ti (Present – unmarked tense) [–past]
     á-kṛ-ṇo-t (Imperfect – marked tense) [+past]

3   Claims

3.1 I will do little to alter these insights of Kiparsky (2005). I will assume that the injunctive is indeed unspecified for tense and mood, that the present is the unmarked tense, and that the indicative is the unmarked mood.

3.2 I wish to add only that the augment does *not* "mark" past tense any more than the primary endings mark the present.

 3.2.1 For one thing, the augment does not endow the injunctive stem with any meaning it lacks on its own.

 3.2.2 Further, as mentioned above, the present perfect readings (type 'Dawn has dawned') "nearly always" available to the Aorist indicative (Macdonell 1916:345) would be impossible if the augment specifically contributed a [+past] feature.

3.3 Rather, the augment seems to *subtract* readings available to the injunctive stem, namely the modal readings, leaving the augmented forms with just those readings that so happen to be past in tense (or, at least, "relative" past tenses (see Kiparsky 2005:230)).

3.4 This is analogous to the restrictive or "set limiting" nature of adverbs, as shown in (6).

(6) ADVERBS AS SET LIMITING
     a. *I am happy.*
     b. *I am always happy.*
     c. *I am sometimes happy.*

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2. For cross-linguistic parallels, see Kiparsky 2005:221, 233 and Kiparsky 1968:36, with further references. One other partial parallel worth mentioning is Standard Arabic, which has an overt indicative marker -*u* (Ryding 2005:56, 607). In the absence of this marker, forms of the so-called "prefix conjugation" (*yaqtul*) may have both *realis* (perfective past tense) and *irrealis* functions "to express wishes, exhortations, injunctions, etc." (Kouwenberg 2010:130–2). In fact, Kouwenberg (2010:132) draws precisely the same comparison of the Central Semitic prefix conjugation forms with the Indo-European injunctive.

3.5 In the same way, the augment of Vedic can be understood as an adverbial, set-limiting element that reduces the number of possible interpretations of a verbal predicate by eliminating all those interpretations that are incompatible with it.

3.6 Since the augment is regularly incompatible with modal interpretations (Kiparsky 2005:230), its presence allows only indicative interpretations of the verbal predicate, while its absence does not rule out indicatival readings for the injunctive.

3.7 Under this view, the synchronic verbal system (like its diachrony) does not "remove" the augment from the "past tenses" to yield the injunctive[3] but precisely the opposite: The augment is, in some sense, *added* to the injunctive stem to derive an indicative.

3.8 The fact that the augment is a prefix, while nearly all other IE inflectional morphology is suffixal follows straightforwardly from its original adverbial status, as does its partial redundancy with the secondary endings.

4 Evidence

4.1 Usage of the injunctive and indicative

4.1.1 As Macdonell (1916:349–50) observes, the injunctive "originally expressed an action irrespective of tense or mood, the context showing which was meant."

4.1.2 Kiparsky (2005:221–3) adduces examples of the injunctive alternating with each of the tense and modal categories, sampled in (7)–(10) below.

  (7) SUBJUNCTIVE (with "prospective" or future meaning): *antár bhuvāni* (sjv.) 'will I come to be within'… *abhí khyam* 'will I look upon (inj.)' (*RV* VII.86.2b–d).

  (8) OPTATIVE/PRECATIVE: *só asmāi cắruś chadayad utá syất* 'may he seem (inj.) and be (opt.) pleasant to him'[4] (*RV* X.31.4d).

  (9) IMPERATIVE: *píbā* 'drink! (ipv.)'… *sadas* 'sit! (inj.)' (*RV* VIII.17.1b–c)

  (10) GENERIC/GNOMIC "PRESENT" TENSE — "in sentences with no specific time reference, to express habitual or regular eventualities" (Kiparsky 2005:222):
      ṛtám píparti ánṛtaṃ ní tārīt 'he promotes (Prs. ind.) truth, dispels (inj.) falsehood'[5] (*RV* I.152.3d).
      divé-dive sắriyo darśató bhūd 'day after day the sun becomes (inj.) visible' (*RV* VI.30.2c).

  • The injunctive is virtually obligatory in prohibitions after *mắ* 'don't' (see most recently Hollenbaugh 2017, 2018).

4.1.3 In addition to these modal uses, the injunctive alternates with the augmented indicative foms in all indicatival functions.

  i. Sequential narration: The Present injunctive alternates with the Imperfect.

  ii. "Out-of-sequence" narration: The injunctive is common, though the indicative, at least of the Aorist, is used as well in this function (E. Dahl 2010:277–8).

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3. Cf., e.g., Macdonell (1916:349): "unaugmented past tense."
4. But Jamison and Brereton (2014:1425) translate 'That one seems beloved to him, and so he should be'.
5. But Jamison and Brereton (2014:330) translate 'He guides the truth across; he has brought down untruth'.

- However, Kiparsky (2005:223) follows Hoffmann (1967:177, 201) in asserting, incorrectly, that the injunctive is obligatory for out-of-sequence narration.

iii. "Recent past" or perfect: Both the injunctive and indicative Aorist are met with (type 'Dawn has dawned').

- The injunctive Aorist is not especially rare this function, though certainly less frequent than the indicative (about 1 in 4 such Aorists is injunctive in *RV* II).

iv. Subordinate clauses: The indicative is common, but the injunctive is also met with (E. Dahl 2010:321).

4.1.4 In short, the injunctive of the Aorist and Present stems can do, respectively, all that their indicative counterparts can do, in addition to expressing a full range of modal meanings.

4.2   "Gnomic" habituality as modal

4.2.1 I here regard the "gnomic" usage (also called *generic-habitual* or "*timeless*") of the injunctive as modal rather than indicative. This assumption has strong support in the semantic literature on habituality and modality (see Boneh and Doron 2010:352 for references).

4.2.2 Boneh and Doron (2008, 2010) discuss the matter at length, arguing for an analysis of habituals, particularly of the *gnomic* variety, as modal.

4.2.3 Their explanation and analysis are complex and need not detain us here. Nonetheless, for an intuitive sense of the modality of habituals, consider the classic example in (11) (Boneh and Doron 2008:339, 341).

(11)   *Mary handles / handled the mail from Antarctica.*

Under a habitual reading, (11) is true irrespective of whether any mail from Antarctica has actually come in.

4.2.4 Further, they point out that, in many languages, "gnomic habituality is expressed via the simple form of the verb while the expression of actualized habituality involves periphrasis" (Boneh and Doron 2008:321, 2010:343–51).

4.2.5 So, in Vedic, the injunctive form being both functionally "gnomic" and formally "the simple form of the verb" is wholly consistent with the analysis of gnomic habituality as "inherently modal" (Boneh and Doron 2010:352).

4.3   Indicative and indicatival

4.3.1 Given that the gnomic uses are modal, this leaves the indicatival readings of the injunctive stem as follows, in order of frequency (highest to lowest, left to right).

(12)   INDICATIVAL INTERPRETATIONS OF THE AORIST AND PRESENT INJUNCTIVE
   a. Aorist injunctive: "recent past" or perfect, relative past/out-of-sequence, "narrative" or perfective.
   b. Present injunctive: "narrative" or perfective, relative past/out-of-sequence, perfect.

7

- Note that the Present and Aorist stems express roughly the same range of meanings, but their frequencies (and perhaps regularity) are quite different.

4.3.2 The readings of the injunctive in (12) are exactly those that are expressible by the (augmented) Aorist and Imperfect indicative respectively.

4.3.3 I provide examples of each reading in the appendix to this handout.

4.3.4 Further, one and the same verb root may occur in both the injunctive and the indicative, often in the *same* meaning, as shown in (13).

    (13)   INDICATIVAL INJUNCTIVE AND INDICATIVE TO THE SAME ROOT

        a.   PRESENT INJUNCTIVE: *ávartayat sū́riyo ná cakrám* **bhinád** *valám índro áṅgirasvān* (*RV* II.11.20cd).

           '[Indra] rolled[Ipf.] (Namuci's head) like the sun its wheel. Together with the Aṅgirases, Indra **split**[Prs.inj.] the Vala cave.' (tr. Jamison and Brereton 2014:415).

        b.   IMPERFECT INDICATIVE: *úd gā́ ājad* **ábhinad** *bráhmaṇā valám ágūhat támo ví acakṣayat súvaḥ* (*RV* II.24.3cd).

           'He drove up[Ipf.] the cattle; he **split**[Ipf.] the cave by the sacred formulation. He hid[Ipf.] the darkness and made the sun visible[Ipf.].' (tr. Jamison and Brereton 2014:436).

        c.   AORIST INJUNCTIVE: *agníṃ devā́so mā́nuṣīṣu vikṣú priyáṃ* **dhuḥ** *kṣeṣiyánto ná mitrám* (*RV* II.4.3ab)

           'Agni **have** the gods **installed**[Aor.inj.] among the clans stemming from Manu, their own dear one, as those desiring to dwell peacefully (install) an envoy' (tr. Jamison and Brereton 2014:406).

        d.   AORIST INDICATIVE: *púnaḥ sám avyad vítataṃ váyantī madhyā́ kártor* **ní adhāc** *chákma dhī́raḥ* (*RV* II.38.4ab).

           'Once again the weaver has wrapped up[Aor.ind.] what was stretched out; in the middle of his work the mindful (worker) **has set down**[Aor.ind.] his craft' (tr. Jamison and Brereton 2014:457).

4.3.5 Where modal uses occur, including gnomic and prospective uses, they belong without exception to the injunctive form of the verb (see Appendix, (5A)–(6A)).

- As discussed above, the gnomic and prospective uses pattern with the other modal uses (prohibitive, imperative, optative/precative) in that they are *only* available to the injunctive (setting aside the marked modal forms), never the augmented indicative.

4.3.6 Thus, again, the injunctive forms have more readings available to them than do the corresponding indicatives.

4.3.7 Hence, the sets of readings available to the indicative forms are strict subsets of the sets of readings available to the corresponding injunctive forms.

Table 4: **I**NTERPRETATIONS AVAILABLE TO THE **A**ORIST AND **P**RESENT STEMS

Stem	Augmented (indicative)	Augmentless (injunctive)
Aorist	"recent past" or perfect relative past "narrative" or perfective	"recent past" or perfect relative past "narrative" or perfective gnomic ("timeless") other modal (≈ sjv., opt./prec., ipv.) prohibitive (with *mā́*)
Present	"narrative" or perfective relative past perfect	"narrative" or perfective relative past perfect gnomic ("timeless") other modal (≈ sjv., opt./prec., ipv.) prohibitive (with *mā́*)

4.4   Usage in a text sample: Maṇḍala II of the *Ṛgveda*

4.4.1   As a sample of the text of the *Ṛgveda,* I have taken the second Maṇḍala and done my best to determine the function of every occurrence of every finite verb in its context.

4.4.2   I then coded each for its morphological information and contextual usage, in order to determine the full range of meaning available to each morphological form.

Table 5: **R**EADINGS AVAILABLE TO THE **A**ORIST AND **P**RESENT STEMS IN *RV* **II**

		AOR. IND. (48)	IPF. IND. (115)	AOR. INJ. (63)	PRES. INJ. (43)
1.	**perfect**	87% (41)	8% (9)	17% (11)	∅
	relative past	15% (7)	1% (1)	5% (3)	∅
2.	**perfective**	13% (6)	92% (106)	16% (10)	44% (19)
3.	**gnomic**	N/A	N/A	6% (4)	39% (17)
4.	**prohibitive**	N/A	N/A	37% (23)	12% (5)
5.	**other modal**	N/A	N/A	19% (12)	5% (2)

4.4.3   This confirms that the augmented forms are restricted to exactly that subset of meanings available to the injunctive that are non-modal.

4.4.4   Again, given the frequent perfect usage of both the Aorist and the Imperfect indicative, the augment cannot be marking past tense directly. That is, the semantic contribution of the augment must be something other than [+past]. Cf.:

ví…āvas 'has dawned widely' (and is currently shining) in (2) above.

ví…adardhar 'has always kept separate' (and still is keeping them separate) in (3Ab) of the Appendix.
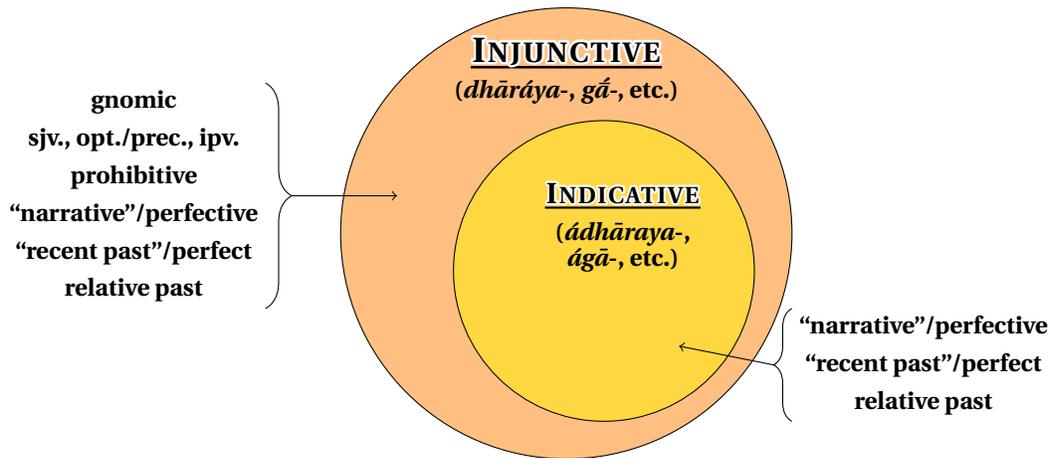
5   Analysis

Figure 1: **INTERPRETATIONS AVAILABLE TO THE INJUNCTIVE AND INDICATIVE**

5.1 I propose, then, that the augment of the verbal system as attested in the *Ṛgveda* is not a marker of past tense, but a limiting element, essentially adverbial.

5.2 The augment does not endow the verb stem with any uses not otherwise available to the augmentless forms.

5.3 Rather, it restricts the set of possible readings to exactly those that correspond to the indicatival uses of the injunctive.

5.4 These are only incidentally "past" tenses (except that the perfect readings of the Aorist and Imperfect indicative are actually present).

5.5 The augment thus works like an adverb, in that it serves only to restrict or reduce the set of readings otherwise available to the unmodified verbal predicate.

5.6 Recall that the unspecified predicate in a sentence like *I am happy* is compatible with either the ⟦always⟧ or the ⟦sometimes⟧ interpretation but may be further specified by the inclusion of either of these adverbs, in which case it is restricted to just the domain permitted by that adverb.

5.7 So too the augmentless forms in the *Ṛgveda* are open to all manner of modal interpretations but may be specified by addition of the adverbial augment *á-*, whereby the modal readings are ruled out.

5.8 The augment thus functions as a limiting or restrictive element.

5.9 Given that it does not contribute meaning to the verbal predicate positively, its semantics may be understood not as additive but (in some sense) as "subtractive."

6   Conclusion

6.1 We have seen that the augment is not a marker of past tense, *per se,* but rather limits the readings already available to the verbal base to its non-modal functions.

6.2   This account improves on prior accounts in the following ways:

     6.2.1   It captures the generalization that the augment correlates with the expression of modality, being found exclusively on indicative forms, whereas the primary and secondary endings have no such restriction.

     6.2.2   It accommodates the *present* perfect readings of the Aorist and Imperfect indicative (type 'Dawn <u>has dawned</u>').

     6.2.3   It does not conflate the morphologically distinct classification of the augment and the so-called "*hic-et-nunc*" particle. Instead, it treats the primary inflectional endings as standing in opposition not to the augment but to the secondary endings.

     6.2.4   This brings Vedic in line with other IE languages that lack or never developed the augment, such as Hittite, where the *i-/r*-full endings mark Present tense, and the *i-/r*-less endings mark past tense.

     6.2.5   Further, it addresses the fact that the primary endings do not simply consist of the secondary endings plus *-i.* They are a discrete set of inflectional endings. The Present indicative is thus not directly derivable from the Present injunctive in the same way that the Imperfect is.

     6.2.6   The treatment of the augment as essentially adverbial is consistent with the fact that it does not behave like all other inflectional morphology in the ancient IE languages in being suffixal (excepting, of course, the nasal-infix Presents).

     6.2.7   It sets the stage for a renewed analysis of the augment in Homeric Greek, whose behavior and distribution is notoriously at odds with that of Vedic. For, despite these differences, the Greek augment too seems not to mark past tense directly or obligatorily but rather, in Wackernagel's (1926–8 [2009]:233) words, "actual occurrence."

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A   Appendix

A.1   Indicatival uses of the injunctive and indicative

A.1.1 Under the headings "perfect" and "perfective" can be assumed all of the more fine-grained indicatival distinctions, such as resultative vs. universal perfect or ingressive vs. complexive perfective and so forth—such distinctions being irrelevant for our purposes here.

(1A)   Aᴏʀɪsᴛ ɪɴᴅɪᴄᴀᴛɪᴠᴇ, ᴀʟʟ ᴀᴠᴀɪʟᴀʙʟᴇ ʀᴇᴀᴅɪɴɢs

     a.   ᴘᴇʀғᴇᴄᴛ: *ví uṣā́ **āvo** divijā́ r̥téna* (*RV* VII.75.1a).

        'Dawn, born in heaven, **has dawned**[Aor.ind] widely with her truth' (tr. Jamison and Brereton 2014:977).

     b.   ʀᴇʟᴀᴛɪᴠᴇ ᴘᴀsᴛ: *ūrdhvó <u>hí</u> **ásthād** ádhi antárikṣe ádhā vr̥trā́ya prá vadháṃ jabhāra* (*RV* II.30.3ab).

        '<u>Since</u>[6] he **had stood**[Aor.ind] upright in the midspace, (then) he bore[Pf.] his murderous weapon forth against Vr̥tra'.

     c.   ɴᴀʀʀᴀᴛɪᴠᴇ-ᴘᴇʀғᴇᴄᴛɪᴠᴇ: *asyá svānásya mandínas tritásya **ní** árbudaṃ vāvr̥dhānó **astaḥ** ávartayat sū́riyo ná cakrám bhinád valám índro áṅgirasvān* (*RV* II.11.20).

        'Having grown strong on this, Trita's exhilarating (soma) that was being pressed, he **laid low**[Aor.ind.] Arbuda.
        He rolled[Ipf.] (Namuci's head) like the sun its wheel. Together with the Aṅgirases, Indra split[Prs.inj.] the Vala cave.' (tr. Jamison and Brereton 2014:415).

(2A)   Aᴏʀɪsᴛ ɪɴᴊᴜɴᴄᴛɪᴠᴇ, ɪɴᴅɪᴄᴀᴛɪᴠᴀʟ ʀᴇᴀᴅɪɴɢs

     a.   ᴘᴇʀғᴇᴄᴛ: *prā́cī dyā́vāpr̥thivī́ bráhmaṇā kr̥dhi*
        *súvar ṇá śukrám uṣáso **ví didyutaḥ*** (*RV* II.2.7cd).

        'Turn heaven and earth eastward with a sacred formulation. Like the blazing sun, you **have made the dawns flash forth**[Aor.inj.].' (tr. Jamison and Brereton 2014:404).

     b.   ʀᴇʟᴀᴛɪᴠᴇ ᴘᴀsᴛ: *ádhvaryavo yó dŕ̥bhīkaṃ jaghā́na yó gā́ udā́jad **ápa** <u>hí</u> valáṃ **váḥ*** *tásmā etám antárikṣe ná vātaā́* (*RV* II.14.3a–c).

        'Adhvaryus! Who struck Dr̥bhīka and who drove up the cattle—<u>for</u> he **had opened**[Aor.inj.] the cave—
        to him (bring) this (soma), (rushing swiftly) like the wind within the midspace' (tr. Jamison and Brereton 2014:420).

     c.   ɴᴀʀʀᴀᴛɪᴠᴇ-ᴘᴇʀғᴇᴄᴛɪᴠᴇ: *ájanayat sū́riyaṃ **vidád** gā́ aktúnā áhnāṃ vayúnāni sādhat* (*RV* II.19.3cd).

        'He gave birth[Ipf.] to the sun and **found**[Aor.inj.] the cattle. He perfected[Prs.inj.] the patterns of the days through the night.' (tr. Jamison and Brereton 2014).

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6. On this use of *hí* as a subordinator, see Jamison's (2019) online *Rigveda Translation: Commentary* to *RV* II.30.3. See E. Dahl 2010:275–6 for secure examples with the subordinators *yadā́* and *yád* 'when', and cf. Gonda 1962:93–102 for still more examples.

(3A)   IMPERFECT INDICATIVE, ALL AVAILABLE READINGS

a.   NARRATIVE-PERFECTIVE: *ṛtúr jánitrī tásyā apás pári makṣū́jātá **ā́viśad** yásu várd*
  *tád āhanā́ **abhavat** pipyúṣī páyo* (*RV* II.13.1a–c).

  'His mother is the season. From her, as soon as he was born, he [=soma] **entered**[Ipf.]
  among the waters, in whom he grows strong. Then he **became**[Ipf.] a voluptuous woman,
  swelling with milk' (tr. Jamison and Brereton 2014:418).

  - DURATIVE-STATIVE (ATELIC IN NARRATION): … ***atiṣṭhan** níruddhā ā́paḥ*… (*RV* I.32.11ab).
    'The waters **stayed**[Ipf.] held down' (or: '**stood still**, obstructed').

b.   PERFECT: *púnaḥ sám avyad vítataṃ váyantīmadhyā́ kártor ní adhāc chákma dhī́raḥ*
  *út saṃhā́yāsthād **ví** ṛtū́m̐r **adardhar** arámatiḥ savitā́devā ā́gāt* (*RV* II.38.4).

  'Once again the weaver has wrapped up[Aor.] what was stretched out; in the middle of
  his work the mindful (worker) has set down[Aor.] his craft. Having pulled himself to-
  gether, he [=Savitar] has stood up[Aor.]. He **has always kept** the seasons **separate**[Ipf.]. As
  Proper Thinking, god Savitar has come[Aor.]' (tr. Jamison and Brereton 2014:457).

c.   RELATIVE PAST: *yáta u **ā́yan** tád úd īyur āvíśam* (*RV* II.24.6d).

  '(The poets) went up to enter there whence they **had come**[Ipf.]'.

(4A)   PRESENT INJUNCTIVE, INDICATIVAL READINGS

a.   NARRATIVE-PERFECTIVE: ***sṛjó** mahī́r indra yā́ ápinvaḥ* (*RV* II.11.2a).

  'You **released**[Prs.Inj.] the great (waters), Indra, which you (had) swelled[Ipf.]'.

b.   PERFECT: *yuváṃ hí apnarā́jāv ásīdataṃ **tíṣṭhad** rátham ná dhūrṣádaṃ vanarṣádam*
  (*RV* X.132.7ab).

  'Because you two who rule over property have taken your seats, he [=the priest?] **has
  mounted**[Prs.Inj.], like a chariot, the one [=sacrificial fire] sitting at the chariot-pole (of
  the sacrifice), sitting on the wood' (tr. Jamison and Brereton 2014:1616).

c.   RELATIVE PAST: *anyó anyám ánu gṛbhṇāti enor apā́m prasargé yád ámandiṣātām*
  *maṇḍū́ko yád abhívṛṣṭaḥ **kániṣkan** pṛ́śniḥ sampṛṅkté háritena vácam* (*RV* VII.103.4).

  'One of the two grasps the other from behind, when they have become exhilarated[Aor.ind.]
  in the discharge of the waters,
  when the frog, rained upon, **has hopped and hopped**[Prs.inj.], and the speckled one
  mixes his speech with the green one' (tr. Jamison and Brereton 2014:1013).

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A.2   Modal uses of the injunctive lacking in the indicative

(5A)   MODAL INJUNCTIVE VS. INDICATIVE OF THE *áya*-PRESENT STEM TO $\sqrt{dhṛ}$- 'HOLD'

    a.   <u>IMPERFECT INDICATIVE</u>: ***ádhārayat*** *pṛthivī́ṃ viśvádhāyasam ástabhnān māyáyā diyám avasrásaḥ* (*RV* II.17.5cd).

        'He **made fast**_[Ipf.] the all-nurturing earth, and by his wiles he propped up_[Ipf.] the heaven (to keep it) from falling' (tr. Jamison and Brereton 2014:425).

    b.   <u>INDICATIVAL PRESENT INJUNCTIVE</u>: *sá **dhārayat** pṛthivī́m papráthac ca* (*RV* II.15.2c).

        'He **held** the earth **fast**_[Prs.inj.] and spread it out_[Pf.inj.]' (tr. Jamison and Brereton 2014:422).

        BUT:

    c.   <u>GNOMIC PRESENT INJUNCTIVE</u>: *tisró bhū́mīr **dhārayan** trī́m̐r utá dyū́n* (*RV* II.27.8a).

        'They **uphold**_[Prs.Inj.] the three earths and the three heavens.' (tr. Jamison and Brereton 2014:440).

(6A)   MODAL INJUNCTIVE VS. INDICATIVE OF THE *á*-AORIST STEM TO $\sqrt{bh\bar{u}}$- 'BECOME'

    a.   <u>AORIST INDICATIVE</u>: *jiyóg **abhūvann** ánudhūpitāso* (*RV* II.30.10c).

        'For a long time they **have been "besmoked"**_[Aor.Inj.] [=befuddled]' (tr. Jamison and Brereton 2014:445).

    b.   <u>NON-MODAL AORIST INJUNCTIVE</u>: *sá ha śrutá índaro náma devá ūrdhvó **bhuvan** mánuṣe dasmátamaḥ* (*RV* II.20.6ab).

        'The god famed as Indra by name, he the most wondrous, **rose**_[Aor.Inj.] upright for Manu' (tr. Jamison and Brereton 2014:430).

        BUT:

    c.   <u>PROSPECTIVE AORIST INJUNCTIVE</u>: ***bhúvad** víśvam abhí ā́devam ójasā vidád ū́rjaṃ śatákratur* (*RV* II.22.4fg).

        'He **will overcome**_[Aor.inj.] every godless one by his strength. He of a hundred resolves will find_[Aor.sjv.] nourishment' (tr. Jamison and Brereton 2014:432).

    d.   <u>GNOMIC AORIST INJUNCTIVE</u>: ***bhúvad** agníḥ purupéśāsu gárbhaḥ* (*RV* II.10.3b).

        'Agni **becomes**_[Aor.Inj.] the embryo in the (women) of many ornaments [=logs]' (tr. Jamison and Brereton 2014:412).

A.3   Perfect injunctive, indicative, and Pluperfect

A.3.1   The Perfect, Pluperfect, and Perfect injunctive are omited from consideration here because the relevant alternation—between the Pluperfect and its augmentless couterpart, the Perfect injunctive—does not supply the analyst with sufficient data to reach any reliable conclusions one way or the other.

A.3.2   For an example of the Perfect injunctive in non-modal usage, see (5Ab) above (*papráthat* 'he spread out').

A.3.2.1   To judge by the discussion of E. Dahl (2010:372–85, 407–14), the Pluperfect and Perfect injunctive have essentially the same semantics and interpretive range, differing only in that the Pluperfect must be past and (in my terms) non-modal. The distinction is thus precisely in line with that of the Aorist and Present stems respectively.

A.3.2.2   However, Jamison's (2014:158–9) word of caution against assigning the Perfect stem a unitary semantics should be well observed. She points out that the Perfect is "a moving target" within the text of the *Ṛgveda* itself, such that fitting the data to a unified synchronic semantics requires "much special pleading," some "aggressive reglossing," and "working against highly resistant data." (She notes further that "the data always win.")

A.3.2.3   Tellingly, Whitney (1879:295–6) says nothing whatsoever about function in his treatment of the Pluperfect and Perfect injunctive and subsequent discussion of Perfect usage. Macdonell (1916:341, 346) asserts outright that the Pluperfect has no distinct function and provides supporting examples.