

Augmented reality: A diachronic pragmatic approach to the development of the IE injunctive and augment

Ian Hollenbaugh
University of California, Los Angeles
ihollenbaugh@humnet.ucla.edu

East Coast Indo-European Conference
12–14 June 2020

It is understood that the concepts are purely differential and defined not by their positive content but negatively by their relations with other terms of the system. Their most precise characteristic is in being what the others are not.

– Saussure (1916 [1959]:117)

1 Introduction

- 1.1 One of the most elusive questions in Indo-European Studies is how the Vedic injunctive (inj.) relates to its formal matches in other IE languages, especially Hittite and Greek.
- 1.2 As Kloekhorst (2017:298–9) points out, despite a formal match of the Ved. present inj. with the Hittite preterite and the augmentless imperfect in Homer, the Ved. inj. sets itself apart functionally by being underspecified for tense and mood (Kiparsky 2005), while the augmentless forms in the other languages are simply past in tense.¹

Match in...	VEDIC		HITTITE	
	Form	Meaning	Form	Meaning
form and function:	<i>hánti</i>	'strikes'	<i>kuenzi</i>	'strikes'
form only:	<i>hán</i>	'struck, strikes, will/may strike'	<i>kuenta</i>	'struck'

Table 1: Functional range of forms with primary and secondary endings in Ved. and Hitt.

- 1.3 This fact has so far received no satisfactory explanation.
- 1.4 More problematic still, there is an apparent paradox in usage of the augmented forms in Vedic as compared to that of Greek:

	VEDIC		HOMERIC GREEK	
	Form	Meaning	Form	Meaning
augmentless:	<i>dát</i>	'gave, <u>gives</u> '	δῶκε	'gave'
augmented:	<i>ádāt</i>	'has given'	ἔδωκε	'has given, <u>gives</u> '

Table 2: Functional range of augmented and augmentless forms in Ved. and Hom. Gk.

- 1.5 This too has received no satisfactory explanation.

1. With the exception of various fossilized forms (imperatives in *-s or *-so, type Gk. δός 'give!' and ἔπειο, Lat. *sequere* 'follow!'; 2sg. pres. ind. to Gk. αθηματις, type τίθης 'you are putting'. This suggests that the underspecificity of the inj. is an archaism.

1.6 The augment has been variously described as being a marker of . . .

- i. past tense: E.g., Macdonell (1916:122); Kiparsky (2005:220, 230); Lundquist and Yates (2018:2141). Often said to be “redundant” with the secondary endings in this function (Bartolotta 2009:514–5, Napoli 2006:47, Dahl 1985:83).
- ii. present reference: E.g., Platt (1891), Bakker (1999, 2005)—noting the correlation of the augment with aorists in “perfect” and “gnomic” value.
- iii. perfective aspect: E.g., Platt (1891), Willi (2018).
- iv. “actual occurrence” (Wackernagel 1926–8 [2009]:233) or “factual, absolutely certain occurrence” (ibid.:229). Similarly Delfs (2006:6), though here the augment is viewed as an *indirect* evidential marker (“to indicate hearsay”).

1.7 Each of these explanations has its drawbacks vis-à-vis the data:

- i. past tense: The requirement of the augment in Homer for gnomic (Platt 1891) and futurate (Wackernagel 1926–8 [2009]:228–9, Gildersleeve and Miller 1900:114) uses of the aorist rules out the possibility of the augment being a marker of past tense. An example of the latter is (1) (similarly ἀπέτεισαν ‘will repay’ at *Il.* IV.160–1).
 - (1) AORIST INDICATIVE WITH FUTURE REFERENCE
 εἰ μὲν κ’ αὖτις μένων Τρώων πόλιν ἀμφιμάχωμαι,
 ὤλετο_[AOR.] μὲν μοι νόστος, ἀτὰρ κλέος ἄφθιτον ἔσται_[FUT.] (*Il.* IX.412–3 (≈ 414–6)).
 ‘If I stay here and fight around the city of the Trojans,
 then **lost** for me **is**_[AOR.] my return home but immortal fame **will be**_[FUT.] mine’ (ex. and tr. Wackernagel 1926–8 [2009]:228).
- ii. present reference: Works fairly well for the aorist, but not at all for the imperfect, which never has present reference.
- iii. perfective aspect: Works reasonably well for the aorist, not for the imperfect. Has a further problem that the augmentless and modal forms of the aorist have the same aspectual value as the augmented form, so how can the augment be contributing aspectual information?
- iv. “actual occurrence”: The explanation that fits best with the data, though not well fleshed out by Wackernagel (1926–8 [2009]:229, 233), only mentioned in passing. We shall pursue it in detail here.

1.8 Despite their differences, the Vedic and Homeric augmented and “injunctive” forms show certain distributional behavior in common, unlikely to be coincidental:

1.8.1 The use of the augmented aorist in Vedic for “recent past” (Avery 1885) matches the “perfect” use of the augmented aorist in Homer noted by Platt (1891:221–6) and others.

- (2) “PERFECT” USE (= RECENT PAST/RESULTATIVE) OF THE AOR. IN HOMER
 τίπτε τόσον, Πολύφημ’, ἀρημένος ὦδ’ ἐβόησας_[AOR.]
 νύκτα δι’ ἀμβροσίην καὶ αὐπνους ἄμμε τίθησθα_[PRES.]; (*Od.* IX.403–4).

‘Why in the world, Polyphemus, (being) so distressed, **have you cried out**_[AOR.] thus through the ambrosial night and (why) **do you render**_[PRES.] us sleepless?’

1.8.2 Homeric Greek’s preference for the augmentless forms in past narration (Chantraine 1958 [2013]:484) *also* matches the use of the Vedic injunctive, particularly the aorist (Avery 1885:330).

- (3) INJUNCTIVE AOR. IN PAST NARRATION IN THE *ṚGVEDA*
*āvīr bhāvann ūd atiṣṭhat*_[IPF.] *parāvṛk*
*prāti śronā sthād*_[AOR.INJ.] *vī anág acaṣṭa*_[IPF.] (*RV* II.15.7bc).

‘The shunned one stood up_[IPF.]
the lame one **gained firm footing**_[AOR.INJ.]; the blind one gained clear vision_[IPF.]’.

2 Claims

2.1 The task of the present paper is to reconcile these apparently disparate facts. In particular, I claim:

1. Contrast to the “marked” present forms yields a preterital interpretation for the injunctive in Anatolian. In NIE languages, the marked modals block the application of the inj. in modal functions wherever applicable.
2. In the *Rgveda*, since the augment excludes non-past and non-indicative interpretations of the verb, the augmented forms contrastively reinforce those interpretations for the injunctive. Because the augment is absent from Anatolian and most other IE languages, no such pragmatic reinforcement effects can be observed.
3. The augment *does not* mark past tense but in origin indicated a notion of certainty (\approx ‘really, truly’), functioning to exclude the modal uses available to the injunctive in discourse contexts other than past narration.

Vedic: Reinterprets the augment as an overt marker of indicative mood, which is strongly associated with past tense by a synchronic pragmatic operation.

Greek: The augment’s use to indicate certainty (“actual occurrence”) is favored in gnomic and futurate contexts, since the injunctive is no longer available as a functional category distinct from the augmented forms. In Homer the original distribution of the augment is maintained as a discourse effect.

3 Framework

- 3.1 Grønn (2007, 2008) (following Blutner 2000) applies a framework known in neo-Gricean pragmatics as a “Horn strategy” (Horn 1984) to the aspectual system of Russian, in order to explain how speakers decide when to use the perfective and imperfective as a partial blocking process.
- 3.2 I will apply this kind of analysis to the data of Hittite, Vedic, and Greek, in order to explain the diachronic development of the injunctive and augment and their synchronic distributions within each of the three languages.
- 3.3 This partial blocking process is represented as a 2×2 game between the speaker’s preference for “short, unmarked forms” (vertical arrows) and hearer’s preference for “stereotypical, unmarked meanings” (horizontal arrows) (Grønn 2007). Examples in English are given in Tables 3–4.

	m ₁ : direct		m ₂ : indirect
f ₁ : <i>kill</i>	✓	←	✗
	↑		↑
f ₂ : <i>cause to die</i>	✗	←	✓

Table 3: Blocking of *kill* by *cause to die*

	m ₁ : count		m ₂ : mass
f ₁ : <i>cow</i>	✓	←	✗
	↑		↑
f ₂ : <i>beef</i>	✗	←	✓

Table 4: Partial blocking of *cow* by *beef*

3.4 Table 3:

- 3.4.1 In Table 3, the speaker prefers the minimally marked form (viz. *kill* (f_1)) and the hearer assumes its most stereotypical meaning (viz. direct killing (m_1)).
- 3.4.2 When a speaker makes the discourse move to say *cause to die* instead (f_2), some less stereotypical meaning (viz. indirect killing (m_2)) is assumed because, if the speaker had meant m_1 , there was a better form available (viz. *kill*).
- 3.4.3 Applying the algorithm of weakly bidirectional OT (Jäger 2002), the preferences of speaker and hearer conspire to prefer the pair $\langle f_1, m_1 \rangle$ over the pairs $\langle f_1, m_2 \rangle$ and $\langle f_2, m_1 \rangle$.
- 3.4.4 The two losing pairs are removed from the table (**X**) and the optimal pair remains (**✓**).
- 3.4.5 Thus, *kill* is the preferred form with the preferred meaning of direct killing.
- 3.4.6 The remaining pair $\langle f_2, m_2 \rangle$ survives despite the existence of the optimal pair $\langle f_1, m_1 \rangle$. This is said to be the “weakly optimal” candidate.
- 3.4.7 “True, there is a better form (f_2), but not given meaning m_2 . Similarly, there is a better meaning (m_1), but not given form f_2 ” (Grønn 2007).

3.5 Table 4:

- 3.5.1 Table 4 works similarly—the mass noun *beef* blocking the application of *cow* in m_2 —except that there are certain contexts in which one might wish to use *cow* as a mass noun (m_2), as in (4)

(4) DEBLOCKING: NON-CANONICAL MASS NOUN
Hindus are not allowed to eat cow (ex. Grønn 2008).

- 3.5.2 This is called “deblocking” (Grønn 2007, 2008), whereby the mapping $\langle f_1, m_2 \rangle$ can arise only if m_2 is understood in some unusual sense.
- 3.5.3 This is captured by assuming a second round of blocking (Grønn 2008), such that *beef* is f_1 , mapped to an m_1 “canonical mass noun” while *cow* (now f_2) is mapped to an m_2 “non-canonical mass noun,” shown in Table 5.

	m_1 : canonical mass		m_2 : non-canonical mass
f_1 : <i>beef</i>	✓	←	X
	↑		↑
f_2 : <i>cow</i>	X	←	✓

Table 5: Deblocking of *cow* in special meaning

- 3.6 This framework can be readily extended to tense-aspect and modality systems, in order to explain why one form grammaticalizes in a particular meaning.

3.6.1 For example, in Lebanese Arabic, an indicative marker *b-* has evolved from an old progressive marker (Cohen 1984:294).

3.6.2 Thus, *b-yišrab* means ‘he drinks’, while the unmarked *yišrab* means ‘may he drink’ (vel sim.).²

2. Subsequently a new progressive marker has developed using *ʿam* (< agentive participle *‘working one, worker’).

3.6.3 It seems that historically the *b*-progressive forms were used particularly in present indicative contexts, while the unmarked forms were used elsewhere (Table 6, STAGE A).

3.6.4 Over time, this has evolved into a modal/non-modal contrast (Table 6, STAGE B).

- At STAGE B, the morphologically more “marked” form has become the default form for the stereotypical, indicative meaning, and so is treated as f_1 .

STAGE A: 15 TH C. LEVANTINE				STAGE B: MOD. LEBANESE				
	[elsewhere]		[pres. ind.]		[non-modal]		[modal]	
<i>yīšrab</i>	✓	←	✗	⇒	<i>b-yīšrab</i>	✓	←	✗
	↑		↑			↑		↑
<i>b-yīšrab</i>	✗	←	✓		<i>yīšrab</i>	✗	←	✓

Table 6: Diachrony of Lebanese indicative marker *b*-

3.7 As opposed to alternative frameworks, I use the “Horn strategy” for this analysis because it accommodates the interactions between all the various functional categories in the respective verbal systems here considered, and can be used to show how synchronic reasoning processes lead to diachronic grammaticalization.

4 Analysis

4.1 PIE to Hittite: Primary endings

4.1.1 Extending this analysis to the tense-aspect stems of PIE leads to Table 7.

STAGE A: PIE				STAGE B: HITTITE				
	[elsewhere]		[non-past]		[non-past]		[past]	
* <i>g^{wh}én-t</i>	✓	←	✗	⇒	<i>kuen-zi</i>	✓	←	✗
	↑		↑			↑		↑
* <i>g^{wh}én-ti</i>	✗	←	✓		<i>kuen-t(a)</i>	✗	←	✓

Table 7: Diachrony of PIE primary ending *-ti* into Hittite

4.1.2 The PIE primary forms were preferred in non-past contexts, while the “injunctive” forms could be used in any context but would be favored in [past] contexts by contrast to the primary forms.

4.1.3 This is reinterpreted as a past/non-past system in Hittite (Table 7, STAGE B).

4.1.4 Deblocking can occur in Hittite, mapping *kuenzi* (f_1) to [past] (m_2) in narrative or historical contexts (“narrative” or “historical” present).

- By contrast, the present is not typically used in narration in R̥gvedic and Homeric, the injunctive/augmentless preterites being used instead (we will return to this point later).

4.2 PIE to Vedic and Greek: Present indicative

4.2.1 In Vedic, too, there is a strong association of the injunctive with past time, though not an obligatory one (we will see why later).

4.2.2 In Homeric Greek, the augmentless preterite forms are obligatorily indicative and practically restricted to past tense usage (cf. n.9 below for exceptions).

4.2.3 This amounts to a change nearly identical to that seen for Hittite (Table 7 above):

- The primary endings (without further derivation) are grammatically specified as [non-past] in STAGE B (Table 8).
- The secondary forms, in contrast, are *pragmatically* specified for [past] at STAGE B.

	STAGE A: PIE			⇒	STAGE B: VEDIC/HOMERIC			
	[elsewhere]		[non-past]		[non-past]		[past]	
*g ^{wh} én-t	✓	←	✗		hán-ti, θείν-ει	✓	←	✗
	↑		↑			↑		↑
*g ^{wh} én-ti	✗	←	✓		hán(-t), θείν-ε	✗	←	✓

Table 8: Diachrony of PIE primary ending *-ti into Vedic and Homeric

4.2.4 In both languages, the present indicative is not only non-past, as we see in Hittite, but pragmatically specified as a *present* tense, standing in contrast to the marked future/subjunctive.

	[non-future]		[future]
hán-ti, θείν-ει	✓	←	✗
	↑		↑
han-a-ti, θείν-ηι	✗	←	✓

Table 9: Specified present tense in Vedic and Homeric

- This can be deblocked in certain contexts, however, as in English (*My plane leaves/is leaving tomorrow at noon*).

4.3 PNIE

4.3.1 In the NIE languages, unlike Anatolian, mood (subjunctive and optative) is productively marked by suffixation, contrasting with the simple stem.³

4.3.2 This has the effect of restricting the injunctive to just its non-modal uses under normal circumstances, via pragmatic blocking of the type in Table 10.⁴

	[non-modal]		[modal]
*g ^{wh} én-t(i)	✓	←	✗
	↑		↑
*g ^{wh} én-e-t(i)	✗	←	✓
*g ^{wh} n- <u>í</u> éh _I -t			

Table 10: PNIE marked moods grammaticalizing

	[neutral]		[perfect(ive)]
*uég ^h e-t	✓	←	✗
	↑		↑
*uég ^h -s-t	✗	←	✓

Table 11: PNIE s-Aorist grammaticalizing

3. Whether or not Anatolian inherited, then lost, the subjunctive and/or optative (and, if so, in what function) is of minor importance for the purposes of this paper (cf. Lundquist and Yates 2018:2146–7). See Melchert (to appear:37–40) for a discussion of the evidence. What matters here is productive usage, of which we can be certain only for “post-Anatolian” IE.

4. In several branches, we may assume that this pragmatic restriction became grammaticalized, such that the injunctive was no longer available for use in modal contexts (as, e.g., in Greek and Italic).

4.3.3 Sibilant aorists become fully functional as well within PNIE, productively deriving aorist stems.⁵

4.3.4 However, the (sibilant) aorist system appears *not* to have had full modal paradigms to the same extent as the present system.

- In Vedic, we find that very few present injunctives have modal uses, while many aorist injunctives do have modal uses, especially sibilant and reduplicated aorists (cf. Whitney 1889:284 ff., 290, 293) and the 2nd and 3rd persons of some root aorists (type *dāḥ* ‘give!’; see Hoffmann 1967:255–6).
- The injunctive seems to “fill in” for the marked modals just in case of a paradigmatic gap in a modal paradigm (ibid.:236–64, 268–9), which may be thought of in terms of “deblocking.”
- This occurs most often among the aorists (ibid.:255–6), explaining why the pres. inj. is virtually restricted to non-modal use (excepting gnomic-generic) even in the *R̥gveda* (ibid.:256).

4.4 The augment

4.4.1 I assume that the augment was originally used in order to disambiguate the inj. in its non-modal functions from its modal ones.⁶

4.4.2 Picking up on the suggestion of Wackernagel’s (1926–8 [2009]:229, 233), I suppose the augment was adverbial and contributed information along the lines of ‘really, certainly, verily’.

4.4.3 Thus, an inj. like **uēḡ^h-s-t* ‘should convey, has conveyed, conveys’ was strictly vague between modal and non-modal interpretations, while its augmented counterpart, **h₁é-uēḡ^h-s-t* ‘has conveyed’, was practically confined to the non-modal interpretations.

	[elsewhere]		[certain]
<i>*uēḡ^h-s-t</i>	✓	←	✗
	↑		↑
<i>*h₁é-uēḡ^h-s-t</i>	✗	←	✓

Table 12: Augment grammaticalizing

4.4.4 Following Boneh and Doron (2008, 2010), I assume that gnomic genericity can be understood as *modal* and hence was expressible as one of the modal interpretations available to the injunctive—a situation essentially retained in Vedic.

4.4.5 The aorist injunctive is typically past-referring by virtue of expressing perfect(ive) aspect, which, cross-linguistically, is strongly associated with past tense *without overt temporal marking* (Dahl 1985:81–4).

- So, when the possibility of modal interpretation is excluded by using the augment, the default interpretation of the aorist is as a past indicative.

5. Cf. Melchert’s (to appear:44–5) discussion of the (lack of) evidence for the sibilant aorist in Anatolian, as well as Jasanoff’s (2019; 2003:174–214) treatment of the sibilant aorist with respect to the notion of a “presigmatic aorist.” His “classical sigmatic aorist,” which developed *within* “inner Indo-European,” is what concerns us here.

6. Once again, precisely *when* the augment came into being is not immediately relevant (cf. Lundquist and Yates 2018:2141 for overview and discussion). I take it to be a shared feature, at least, of Indo-Iranian and Greek (as well as Armenian and Phrygian). Whether it was a shared *innovation* or a lateral borrowing, and whether it existed in any other NIE branches (and was lost) does not actually affect the analysis here presented, so long as it was absent in Anatolian (cf. Melchert (to appear:34): “There are no credible traces of the augment in Anatolian”).

4.4.6 The present injunctive, on the other hand, is past by virtue of its pragmatic contrast with the marked present indicative, as shown above (Table 8).

- If a speaker chooses to use the present injunctive, the hearer can infer that they have done so in order to convey information not typical of the present indicative.
- This technically leaves open the possibility of modal uses (including gnomic-generic).
- To exclude these, the augment could be added to the present injunctive as well, thus restricting it to just non-modal and past interpretation, which we call the imperfect indicative.

4.5 Vedic

4.5.1 The Vedic present injunctive is typically interpreted as past-referring in contrast to the present indicative, as captured by Table 13.

- The aorist injunctive is also typically past-referring, not by contrast to the present but by its association with perfect(ive) aspect.

	[non-past]		[past]
<i>hán-ti</i>	✓	←	✗
	↑		↑
<i>hán(-t)</i>	✗	←	✓

Table 13: Present inj. vs. present ind. in Vedic

4.5.2 For verbs with viable marked modals, the modal uses of the injunctive are blocked (excluding gnomic-generic), as captured by Table 14.

	[modal]		[non-modal]
<i>han-a-t(i)</i>	✓	←	✗
<i>han-tu</i>	↑		↑
<i>hán(-t)</i>	✗	←	✓

Table 14: Vedic injunctive as non-modal

4.5.3 In Vedic, the augment has been reinterpreted as a marker of indicative mood. For verbs with modal injunctives, such as *dāḥ* ‘give!’, the augment excludes these modal readings: *ádāḥ* ‘you have given’ (e.g., *RV* x.15.12c). This is captured by Table 15.

	[non-modal]		[modal]
<i>á-dā-s</i>	✓	←	✗
	↑		↑
<i>dā-s</i>	✗	←	✓

Table 15: Augment in Vedic – Injunctive as “modal” (incl. generic)

4.5.4 The gnomic use of the injunctive (cf. Hoffmann 1967:113–44) is also captured by Table 15, as a kind of modality (generic). This alternates with the gnomic *present indicative*, as in Greek.

(5) GNOMIC-GENERIC IN VEDIC

a. *tám asya rájā váruṇas tám aśvínā krátuṃ sacanta*_[PRES.INJ.] (RV I.156.4ab).

‘King Varuṇa (and) the Aśvins **follow**_[PRES.INJ.] that resolve of his’.

b. *yé gavyatā mánasā sátrum ādabhúr*_[AOR.INJ.] *abhipraghnánti*_[PRES.IND.] *dhr̥ṣṇuyá* (RV VI.46.10ab).

‘Who, with their mind set on cattle, **outwit**_[AOR.INJ.] their rival and **smite**_[PRES.IND.] him boldly’.

- As with the other modal functions, the augment is employed to exclude gnomic interpretations, shown in (6) (cf. Jamison and Brereton’s (2014:718–9) introductory remarks to this hymn).

(6) GNOMIC INJUNCTIVE VS. RESULTATIVE INDICATIVE AORIST

*út súvar gād*_[INJ.]...

*ā súriyo aruhac*_[IND.] *chukráṃ árṇo áyukta*_[IND.] *yád dharíto vītápr̥ṣṭhāḥ* (RV V.45.1c, 10ab).

‘The (ideal) Sun **comes up**_[INJ.]...

The Sun (of today) **has mounted**_[IND.] the gleaming flood, now that he **has yoked**_[IND.] his golden, straight-backed (horses)’.

4.5.5 Since the augmented forms, by a network of pragmatic contrasts, effectively rule out all interpretations *except* past indicative, the augment may be understood as associated with past tense in Vedic (without “marking” past tense).⁷

4.5.6 Pragmatic contrast with the augmented aorist forms thus *reinforces* the modal and gnomic-generic uses of the injunctive in Vedic, as captured by Table 15.

- In Greek, where the augment is not strictly associated with past reference or indicative mood, the non-past and modal uses of the injunctive do not arise (but cf. n.9 below).

4.5.7 In past narration, Vedic frequently uses the aorist injunctive (Avery 1885).

- This is because the injunctive is vague only from the point-of-view of the present moment.
- The non-past interpretations so far mentioned (modal and gnomic-generic) do not apply in past (“narrative”) time, so the injunctive of the aorist can be used without ambiguity in narrative or mythic contexts, as in (3) above, repeated here (contrast *úd... asthāt* ‘has stood up’ at RV II.34.4c).

(3) INJUNCTIVE AOR. IN PAST NARRATION IN THE *ṚGVEDA*

*āvír bhávann úd atīṣṭhat*_[IPF.] *parāvfk*

*práti śroná sthād*_[AOR.INJ.] *ví anág acaṣṭa*_[IPF.] (RV II.15.7bc).

‘The shunned one **stood up**_[IPF.]

the lame one **gained firm footing**_[AOR.INJ.]; the blind one **gained clear vision**_[IPF.]’.

7. That the augment does not *strictly* require past reference in Vedic is suggested by a handful of clearly augmented forms that must nonetheless be understood as referring to the *present* time: generic/gnomic (ipf.), stative (aor.), and performative (aor.) (see, respectively, Hoffmann 1967:209–11, and Delbrück 1897:239, Schwyzer–Debrunner:282). The stative and performative uses are available to the aorist only. Both are cross-linguistically common uses of perfect(ive)s, so these may be derived simply from the perfect(ive) aspect of the aorist rather than by a deblocking process. The (extremely marginal) gnomic uses of the imperfect, however, can straightforwardly be understood as deblocking (available only to forms whose injunctives are not viable for phonological reasons).

4.5.8 Because this would have been the case since the earliest stages of the augment’s development in the proto-language, a similar distribution is observable in Greek (i.e., augmentless preterites are favored in past narration).

- This usage can be understood in terms of *deblocking* triggered by a past discourse context (cf. narrative present discussed at §4.1.4 above).
- Because the injunctive is deblocked in such contexts, it bleeds the application of the narrative present (cf. Kiparsky 1968:36–7), which is accordingly lacking in Vedic (Hoffmann 1967:165, 201), as in Homer.

4.5.9 On the other hand, the augmented aorist tends to have resultative or “recent past” meaning precisely because, in the context of the present moment, one must rule out various possible interpretations that the injunctive would leave open.

- This is paralleled by Homeric Greek’s preference for the augment in dialogue and, in particular, of the augmented aorist in its “perfect” interpretation (cf. (2) above).

4.6 (Homeric) Greek

4.6.1 The Homeric imperfect, whether augmented or not, is past referring in contrast to the marked present indicative, as in Vedic. This is captured by Table 16.

- The aorist is past preferring as well, due to its aspect, rather than contrast with the present (again, as in Vedic).

	[non-past]		[past]
τίθη-σι	✓	←	✗
(ἐ)τίθη-ει	✗	←	✓

Table 16: Imperfect vs. present in Greek

4.6.2 All augmentless forms are categorically blocked from modal interpretation. This is captured by Table 17.

- In contrast to Vedic, Greek has fewer paradigmatic gaps in its modal paradigms, so there are no “deblocking” effects of the Vedic type (Table 15).
- The only injunctives used in modal function are those that have grammaticalized as such (type δός ‘give!’).

	[modal]		[non-modal]
φίλ-ῆι/φίλῆ-σ-ῆι	✓	←	✗
(ἐ)φίλ-ει/(ἐ)φίλῆ-σ-ε	✗	←	✓

Table 17: Marked modals in Greek

4.6.3 In Greek, the injunctive merges with the indicative functionally, probably because its distinct functional range was highly restricted in competition with all the marked forms (present indicative, augment, marked modals).

- 4.6.4 Unlike Vedic, the augment does not mark indicative mood, *per se*. All augmentless preterites (except fossilized imperative and present forms) are obligatorily non-modal and past referring, so the presence or absence of the augment is strictly irrelevant to modality and time reference.
- 4.6.5 Instead, Greek retains the original adverbial (“evidential”) function of the augment (Delfs 2006:7),⁸ to mark “certainty” or “actual occurrence” (Wackernagel 1926–8 [2009]:229, 233).
- 4.6.6 When the injunctive was lost as a distinct functional category, the means of expressing prohibitions and gnomic statements had to adjust.
- 4.6.6.1 Prohibitions became expressed by marked modals, opposing the present imperative and aorist subjunctive.
- 4.6.6.2 Aspectual contrast in gnomic sentences would have originally been expressed by the present vs. aorist injunctive (cf. *RV* v.45.2ab).⁹
- In Homer, the present injunctive was now functionally imperfect, unsuitable for use in gnomic sentences.
 - The present indicative had always been available for use in gnomic statements, which stood most readily in opposition to the aorist indicative (West 1989). The augment is used to emphasize the universal *validity* of the utterance.
- (7) GNOMIC AORIST AND PRESENT IN HOMER
 ὥς τε λέων ἐχάρη_[AOR.] μεγάλῳ ἐπὶ σώματι κύρσας. . .
 πεινάων· μάλα γάρ τε κατεσθίει_[PRES.], εἴ περ ἄν αὐτὸν
 σεύωνται_[SJV.] ταχέες τε κύνες θαλεροὶ τ’ αἰζηοί (*Il.* III.23–6).
 ‘As a lion **is seized with joy**_[AOR.] when he comes on a large carcass. . .
 when he is hungry; he **devours**_[PRES.] it eagerly, although against him
are rushing_[SJV.] swift hounds and strong young men’ (ex. and tr. Wackernagel 1926–8 [2009]:232).
- Expression of gnomic genericity has thus shifted to being essentially temporal rather than modal in Greek:¹⁰

4.6.7 Since the augment does not mark past tense, the augmented forms are free to refer to any time.

8. “The original evidential function is preserved in the gnomic aorist of ancient Greek.”

9. A few archaic uses of the present injunctive in gnomic sentences are noted by West 1989. Three augmentless aorists can be found in gnomic function in Homer and Hesiod, six in Pindar. The augmentless gnomics may be understood synchronically in terms of a deblocking process (of the blocking in Table 18), though precisely what circumstances trigger this deblocking remain unclear.

10. In both Greek and Sanskrit, genericity can be expressed within the modal *or* temporal (indicative) domain. In Greek, of course, the subjunctive is often used in gnomic-generic contexts (e.g., σεύωνται ‘they rush’ in (7) above) and regularly in general relative clauses (also optative). The subjunctive in the *Rgveda* seems to show the same function in at least some cases, especially in general relative clauses (see Hoffmann 1967:115, 238). On the temporal side, we find in both languages the present and perfect *indicative* in gnomic-generic use (on Greek, cf. Wackernagel 1926–8 [2009]:232–3; on Vedic, cf. Hoffmann 1967:115, 130–4). The Vedic injunctive in its gnomic-generic (“timeless”) function seems to belong to the modal domain, as evidenced by the fact that it does not show aspectual contrast between aorist and present stems—an aspectual neutralization well known in the rest of the Vedic modal system (cf. Bloomfield and Edgerton 1930:63, 130, Hollenbaugh 2018:54–6; forthcoming), though a few “injunctive” aorists are attested with *primary* verbal endings (Hoffmann 1967:111, Narten 1964:124–5). The gnomic aorist (and marginal augmentless imperfect) of Homeric, however, cannot be said to be modal, since it is expressed by the *indicative*. Given the variability of gnomic-generic morphological realization within the synchronic grammars of both languages, there is nothing particularly odd or problematic about their disagreement in the morphological realization of gnomic verbs (Vedic: modal, Greek: non-modal), nor their variable treatment of the injunctive as modal and/or non-modal.

- The aorist does so, in its gnomic and futurate uses, though it is strongly associated with past time by virtue of expressing perfect(ive) aspect.
- Meanwhile, the imperfect *only* refers to past time, since, unlike the aorist, its non-past counterparts have morphological exponents (viz. the present and future indicative).

4.6.8 The augment is required when universal validity, impending certainty, and factuality are asserted, hence its near invariable use for gnomic and future time reference. This is captured by Table 18.

	[elsewhere]		[certain]
δὲωχ-ε	✓	←	✗
	↑		↑
εὖδὲωχ-ε	✗	←	✓

Table 18: Augment in Homeric – Gnomic and futurate uses

4.6.9 The augmentless forms are preferred in past narration, while they survive, as a kind of residual effect of the original distribution (seen in Vedic).

- As in Vedic, the narrative injunctive blocks the application of the narrative present (cf. Kiparsky 1968:36–7), which is not attested in Homer (Chantraine 1958 [2015]:191), nor until after Pindar (Wackernagel 1926–8 [2009]:210–1, but “countless examples in Herodotus”).

4.6.10 As in Vedic, the augmented aorist is preferred in resultative (recent past) or “perfect” function (Platt 1891:221–6), since it was (pre-)historically in these contexts that the injunctive was most susceptible to temporal and modal vagueness (cf. (2) above).

- The augment no longer serves to disambiguate the “injunctive” in Homer (though it may have in Mycenaean), but its association with aorists used of the “recent past” is maintained for as long as the augment is “optional.”
- The more general preference for the augment in dialogue is a correlate of this. What had been a pragmatically motivated usage becomes a simple discourse preference (cf. Chantraine 1958 [2013]:484 with a similar suggestion).

4.7 Overview of usage in Vedic and Greek

↓uses	VEDIC		HOMERIC		VEDIC & HOMERIC	
	aug.	inj.	aug.	non-aug.	pres. ind.	moods
presential (continuous)	[aor.?] ✓	✓	[aor.]		✓	
past (perf./pret.)	✓	✓	✓	✓	*	
gnomic/generic	*	✓	✓	*	✓	(✓)
futurate		✓	✓		*	✓
performative	[aor.?] ✓	✓	[post-Hom.]	[Myc.?] ✓	✓	(✓)
modal (directive)		✓				✓

- ✓ Usage regularly *available* to form.
- * Usage available via *deblocking* only.
- (✓) Usage available *with additional nuance* or *under particular syntactic restrictions*.
- Empty cell: Usage regularly *unavailable* to form.

Table 19: REGULAR TENSE AND MODAL USAGE IN VEDIC AND HOMERIC (SUMMARY)

5 Conclusion

- 5.1 In Hittite the contrast between past and non-past is binary and has accordingly been grammaticalized as such: The “primary” forms are obligatorily non-past (excepting the narrative present via “deblocking”), while the “secondary” forms are obligatorily past (preterite).¹¹
- 5.2 In Vedic, where there is simply a greater number of functional categories in the verbal system, the injunctive shows a wider functional range by standing in contrast to the more marked forms.
- The pragmatic interaction of functional categories brings out certain readings as particularly salient by virtue of the fact that the speaker chooses *not* to use a form specified for this or that mood or tense.
 - In this way, the functional range of the injunctive in the *R̥gveda* need not be an inheritance *as such* from the proto-language but could have developed precisely *because of* the various morphological innovations of Vedic that were lacking in its prehistory.¹²
 - Thus, a category originally underspecified for tense and mood became subject to a number of pragmatic restrictions that gave it a distinctive character in the *R̥gveda*.
 - Yet it apparently gave way to all these pragmatic pressures as quickly as it had come, being all but extinct already in the *Atharvaveda* (Hoffmann 1967:110, Whitney 1889:221).
- 5.3 In Homeric Greek, where the injunctive ceased to be a distinct functional category, the augment plays a crucial role, not as a past or indicative marker, but as a marker of certainty, before becoming obligatory on all preterite forms after Pindar.¹³
- 5.4 Tracing the original meaning of the augment back to a marker of certainty has allowed for a unified account of Greek and Vedic usage, where prior accounts had led to contradictions.
- In particular, the apparently contradictory means of gnomic and modal expression in each language have been reconciled.
- 5.5 Above all, I have provided an explanation as to why the apparently underspecified injunctive of Vedic is matched in form by what are functionally past tenses elsewhere in IE.

Abbreviations

Schwyzler–Debrunner See Schwyzler, Eduard, and Albert Debrunner. 1950.

References

Avery, John. 1885. The Unaugmented Verb-Forms of the Rig- and Atharva-Vedas. *Journal of the American Oriental Society* 11:326–361.

11. Cf. Watkins 1963:47–8: “The development of [the primary/secondary] opposition, as we know it in “classical” Indo-European, is only a dialect feature. . . The transition was simply from the optional use of the particle *-i* to its obligatory use.”

12. Cf. Watkins 1969:45: “Der Injunktiv als solcher ist nicht eine idg. Kategorie, sondern eine indo-ir.; aber seine formalen Merkmale, Tempusstamm mit Sekundärendung. . . gehen in idg. Zeiten zurück.”

13. With some exceptions, as in Herodotus (e.g., VIII.102.2), or the later omission of the augment from the pluperfect in the Koine (e.g., Acts 19:32, Mk. 15:10, Mt. 7:25, etc.).

- Bakker, Egbert J. 1999. Pointing to the Past: Verbal Augment and Temporal Deixis in Homer. In *Euphrosyne: Studies in ancient epic and its legacy in honor of Dimitris N. Maronitis*, edited by John N. Kazazis and Antonios Rengakos, 50–65. Stuttgart: Franz Steiner.
- Bakker, Egbert J. 2005. *Pointing at the Past: From Formula to Performance in Homeric Poetics*. Washington, D.C.: Center for Hellenic Studies.
- Bartolotta, Annamaria. 2009. Root lexical features and inflectional marking of tense in Proto-Indo-European. *Journal of Linguistics* 45 (3): 505–532.
- Bloomfield, Maurice, and Franklin Edgerton. 1930. *Vedic Variants, vol. 1: The Verb*. Philadelphia: University of Pennsylvania Press.
- Blutner, Reinhard. 2000. Some aspects of optimality in natural language interpretation. *Journal of Semantics* 17:189–216.
- Boneh, Nora, and Edit Doron. 2008. Habituality and the Habitual Aspect. In *Theoretical and Crosslinguistic Approaches to the Semantics of Aspect*, edited by Susan Rothstein, 321–348. Amsterdam: John Benjamins.
- . 2010. Modal and Temporal Aspects of Habituality. In *Lexical Semantics, Syntax, and Event Structure*, edited by Malka Rappaport Hovav, Edit Doron, and Ivy Sichel, 338–363. New York: Oxford University Press.
- Chantraine, Pierre. 1958 [2013]. *Grammaire homérique, Tome I: Phonétique et morphologie*. Edited by Michel Casevitz. Paris: Klincksieck.
- . 1958 [2015]. *Grammaire homérique, Tome II: Syntaxe*. Edited by Michel Casevitz. Paris: Klincksieck.
- Cohen, David. 1984. *La Phrase Nominale et l'Évolution du Système Verbal en Sémitique*. Paris: Société Linguistique de Paris.
- Dahl, Östen. 1985. *Tense and Aspect Systems*. Oxford: Blackwell.
- Delbrück, Berthold. 1897. *Vergleichende Syntax der indogermanischen Sprachen*. Vol. 2. Strassburg: Karl J. Trübner.
- Delfs, Lauren C.S. 2006. Evidence for the Origin of the Augment. Paper presented at the 25th East Coast Indo-European Conference, Columbus, Ohio, 21 June 2006.
- Gildersleeve, Basil Lanneau, and Charles William Emil Miller. 1900. *Syntax of Classical Greek from Homer to Demosthenes*. Vol. 1. New York: American Book Company.
- Grønn, Atle. 2007. Horn strategies and optimization in Russian aspect. In *Proceedings of Language, Games, and Evolution*, 1–8. Dublin: ESSLLI workshop.
- . 2008. Russian Aspect as Bidirectional Optimization. In *Studies in Formal Slavic Linguistics*, edited by F. Marusic and R. Zaucer, 121–137. *Linguistik International* 19. Frankfurt: Peter Lang.
- Hoffmann, Karl. 1967. *Der Injunktiv im Veda: Eine synchronische Funktionsuntersuchung*. Heidelberg: Winter.
- Hollenbaugh, Ian. Forthcoming. A New Approach to Prohibitive Constructions in the *R̥gveda* and the *Atharvaveda*. *Journal of the American Oriental Society*.

- . 2018. Aspects of the Indo-European Aorist and Imperfect: Re-evaluating the evidence of the *R̥gveda* and Homer and its implications for PIE. *Indo-European Linguistics* 6:1–68.
- Horn, Laurence R. 1984. Towards a new taxonomy of pragmatic inference: Q-based and R-based implicature. In *Meaning, Form, and Use in Context: Linguistic Applications*, edited by Deborah Schiffrin, 11–42. Washington, D.C.: Georgetown University Press.
- Jäger, Gerhard. 2002. Some notes on the formal properties of bidirectional optimality theory. *Journal of Logic, Language and Information* 11 (4): 427–451.
- Jamison, Stephanie W., and Joel P. Brereton. 2014. *The Rigveda: The Earliest Religious Poetry of India*. Oxford / New York: Oxford University Press.
- Jasanoff, Jay H. 2003. *Hittite and the Indo-European Verb*. 270. Oxford University Press. ISBN: 019928198X.
- . 2019. The sigmatic forms of the Hittite verb. *Indo-European Linguistics* 7:13–71.
- Kiparsky, Paul. 1968. Tense and mood in Indo-European syntax. *Foundations of Language* 4 (1): 30–57.
- . 2005. The Vedic Injunctive: Historical and synchronic implications. *The Yearbook of South Asian Languages and Linguistics* 8:219–235.
- Kloekhorst, Alwin. 2017. The Old Hittite and the Proto-Indo-European Tense-aspect System. *Indogermanische Forschungen* 122:295–307.
- Lundquist, Jesse, and Anthony D. Yates. 2018. The Morphology of Proto-Indo-European. In *The Handbook of Comparative and Historical Indo-European Linguistics*, edited by Jared S. Klein and Brian D. Joseph, 2079–2195. Berlin: de Gruyter.
- Macdonell, Arthur Anthony. 1916. *A Vedic Grammar for Students*. Oxford: Oxford University Press.
- Melchert, H. Craig. to appear. The Position of Anatolian. In *Handbook of Indo-European Studies*, edited by Andrew Garrett and Michael Weiss. Oxford / New York: Oxford University Press.
- Napoli, Maria. 2006. *Aspect and Actionality in Homeric Greek: A Contrastive Analysis*. Milan: Angeli.
- Narten, Johanna. 1964. *Die Sigmatischen Aoriste im Veda*. Wiesbaden: Otto Harrassowitz.
- Platt, Arthur. 1891. The augment in Homer. *Journal of Philology* 19:211–237.
- Saussure, Ferdinand de. 1916 [1959]. *Course in General Linguistics*. Edited by Charles Bally and Albert Sechehaye. Translated by Wade Baskin. New York: Philosophical Library.
- Schwyzler, Eduard, and Albert Debrunner. 1950. *Griechische Grammatik, Bd. II: Syntax und syntaktische Stilistik*. Edited by Albert Debrunner. München: C.H. Beck.
- Wackernagel, Jacob. 1926–8 [2009]. *Lectures on Syntax: With Special Reference to Greek, Latin, and Germanic*. Edited and translated by David Langslow. Oxford / New York: Oxford University Press.
- Watkins, Calvert. 1963. Preliminaries to a historical and comparative analysis of the syntax of the Old Irish verb. *Celtica* 6:1–49.
- . 1969. *Geschichte der indogermanischen Verbalflexion (Indogermanische Grammatik: III/1, Formenlehre)*. Winter.
- West, Martin L. 1989. An unrecognized injunctive usage in Greek. *Glotta* 67:135–138.
- Whitney, William Dwight. 1889. *A Sanskrit Grammar*. Leipzig: Breitkoff & Härtel.

Willi, Andreas. 2018. *The Origins of the Greek Verb*. Cambridge / New York: Cambridge University Press.