

Ezra la Roi

# The life cycles of counterfactual mood in early Indo-European languages

The inherited counterfactual function of the optative and its replacements through time

**Abstract:** In this article, I argue that the counterfactual function of the optative was inherited from Proto-Indo-European and that its past-referring counterfactual function (e.g. in Vedic Sanskrit, Archaic Greek, and Gothic) seems to be the oldest preserved function of the optative in early Indo-European languages. In these and in languages where the optative underwent mood syncretism with other moods such as the subjunctive (e.g. Latin or Old English), the inherited counterfactual function extended its temporal reference to the non-past, following the life cycle of counterfactual markers. Over time, this mood, syncretized or not, lost its counterfactual function in most Indo-European descendants and was replaced by different mood formations at various speeds (typically by a past indicative or a past-like ‘conditional’ mood). First, I provide a functional history of the optative in Ancient Greek, from (1) past counterfactual to (2a) non-past counterfactual, and from there into (3a) non-past ‘hypothetical’ usage and from (1) past counterfactual into (2b) past habitual and (3b) past generic. Next, I internally reconstruct the developmental paths of the optative and its counterfactual replacements across Indo-European languages, concluding with a tentative diachronic typology of counterfactual mood strategies.

**Keywords:** counterfactuality, temporal reference, mood, counterfactual life cycle, internal reconstruction, diachronic typology, Proto-Indo-European, habituality

## 1 Counterfactual mood functions in early Indo-European languages

A sentence or clause is generally called counterfactual when it is supposed or implied to be incompatible with the actual world by the speaker.<sup>1</sup> Counterfactuals can

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<sup>1</sup> Rather than just a matter of truth, the speaker thus supposes/implies that the state affairs is contrary to his/her conception of fact. After all, counterfactuality can be employed rhetorically to sug-

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**Ezra la Roi**, Ghent University; Ezra.laRoi@UGent.be

refer to the past, present, and even the future. Below I give example expressions of these meanings from English and Ancient Greek. On the one hand, the example expressions consist of so-called inflectional mood strategies (Hengeveld 2004: 1190), on which I focus in this paper, which express a counterfactual event in a relatively direct way (e.g. *κε φαίης* ‘you would have said’ in (1d)). On the other hand, there are expressions where the counterfactual event is expressed as a combination of a past modal verb with an infinitive. In these cases, the counterfactuality of the event is the result of two dependent elements (e.g. *ἔδει* ‘ought to have’ and *παραδοῦναι* ‘been restored’ in (1b)).<sup>2</sup>

(1) past-referring counterfactuality

a. *They should have stopped him.*

b. τοῦ τε Πανάκτου τῆ καθαιρέσει, ὃ **ἔδει** ὀρθὸν **παραδοῦναι**  
‘the demolition of Panactum, which **ought to have been restored** to them intact<sup>3</sup> Th. 5.42.2

c. *If he had gone to the shop on time, you would not have stood in front of a closed shop.*

d. κέλευε δὲ οἷσιν ἕκαστος ἡγεμόνων· οἱ δ’ ἄλλοι ἀκήν ἴσαν, οὐδέ **κε φαίης** τόσσον λαὸν ἔπεσθαι ἔχοντ’ ἐν στήθεσιν αὐδῆν, σιγῆ δειδιότης σημάτων·  
‘and each leader gave orders to his own men, and the rest marched on in silence; **nor would you have said** that they who followed in such multitudes had a voice in their breasts, all silent as they were through fear of their commanders’ Il. 4.428–431

(2) present-referring counterfactuality

a. *If only she helped us!*

b. **αἶ γὰρ** Ζεῦ τε πάτερ καὶ Ἀθηναίη καὶ Ἄπολλον  
τοιούτοι δέκα **μοι** συμφοράδμονες **εἶεν** Ἀχαιῶν·  
**If only**, father Zeus and Athene and Apollo, **I had** ten such counselors among the Achaeans; Il. 2.371f.

gest that something is contrary to fact to the speaker, e.g. in so-called *ad absurdum* conditionals: *If you earned as much as you claim you do, you would not go around in that old car* (Dahl 1997: 109; Declerck & Reed 2001: 70).

2 For a corpus-based analysis of counterfactual modal verbs in Archaic and Classical Greek, see la Roi 2024; la Roi forthcoming.

3 The translations of the Greek and Latin examples are based on the most recent Loeb translations found online on the Loeb Classical Library website. Translations of passages in other languages are adopted from the secondary literature cited for those examples.

c. εἰ δὲ γῆς ἐπ' ἐσχάτοις ὄροισιν **ὤικεις**, οὐκ **ἂν ἦν** λόγος σέθεν  
 'But if you **lived** at the world's edge, there **would be** no talk of you.'

d. *He should have been here with us.*

e. οὐ μὴ θάνωσι. τούσδε γὰρ **μὴ ζῆν ἔδει**.  
 'they will never die! For they **ought not to be alive!**' S. Ph. 418

(3) future-referring counterfactuality<sup>4</sup>

a. *If you had come tomorrow instead of today, you would have found me at home.*

b. κάγω τ' **ἂν ἔζων** καὶ σὺ τὸν λοιπὸν χρόνον  
 [Had they agreed to die,] you and **I would live** the remainder of our lives together E. Alc. 295

Though the groups of counterfactual constructions listed here share similar temporal references, the way that these constructions create these temporal references is of course different, not only language by language, but also construction by construction. As detailed in la Roi 2022b, counterfactual uses of the optative predominantly rely on aspectual properties to generate a specific temporal reference (e.g. (2b) using imperfective aspect on a verb with atelic actionality to express unbounded possession of such counselors in the present); the counterfactual uses of the indicative rely on the role of past tense in combination with aspectual properties of the verb (contrast the use of the imperfect indicative with atelic verbs to express non-past counterfactuality in the Ancient Greek examples (2c) and (3b) as well as the English examples (2a) and (3a)).

As for the examples from Ancient Greek which use inflectional moods in a counterfactual way (viz. (1d), (2b), (2c) and (3b)), the way that I represented them here also partially reflects their *diachrony*, or, put differently, the synchronic layering of counterfactual functions by mood strategies. As argued in la Roi 2022b, the replacement of the counterfactual functions of the optative by the indicative, a process which was completed by the time of Classical Greek, can be traced by means of the changes that both constructions undergo in temporal reference; briefly put, first the innovatively counterfactual indicative replaces the optative in its older past-referring counterfactual function (e.g. the counterfactual use of the indicative in conditional protases in Homer is limited to this), after which it also takes over the counterfactual functions of the optative in the non-past. These evolutionary steps

<sup>4</sup> Such future-referring counterfactuals are sometimes referred to as future less vivid conditionals, but this also causes confusion, because that same term is also used to describe future-referring conditionals that are *not* counterfactual. Therefore I choose not to use this term.

follow the life cycle of counterfactual constructions (which I explain in more detail in §§2–3).

Though the counterfactual functions of these moods in Ancient Greek are now well-documented in recent research (see la Roi 2022b; 2024 for overviews), counterfactuals are not always given the necessary amount of terminological clarification. A first problem in the existing literature on counterfactual mood in Indo-European languages is that scholars have used the term *irrealis* to describe counterfactual functions, whether following terminology from older grammars or mixing the term with the modern linguistic concept of *irrealis*.<sup>5</sup> However, because *irrealis*, as a general linguistic concept (used especially in typology), refers to many different non-actualized mood usages (i.e. future-referring subjunctives, potential or realizable wish optatives, and counterfactual functions) and its utility as a descriptive concept is in fact highly debated (cf. Cristofaro 2004; de Haan 2012), the term seems best avoided in functional studies of moods in individual languages.<sup>6</sup> A similar issue applies to the term *fiktiv*, a term coined by Hettrich (1998) to cover most of these functions of the optative:

1. It is not a term used to describe other languages;
2. It has a rather vague reference to counterfactual as well as non-counterfactual functions; and
3. It does not seem to cover the habitual and generic functions which the optative has in some Indo-European languages (e.g. Archaic Greek, see §4 below).

A second problematic terminological inheritance is the idea of the so-called *potential of the past* or *past potential* in early Indo-European languages. As discussed in la Roi 2022b: 256–258, Wakker had convincingly shown that the old concept of the potential of the past fails to account for the fact that the adduced examples to support this idea actually all have a counterfactual meaning in context (see Wakker 1994: 156–166; 2006). Nevertheless, some scholars have sought to revive this old notion

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<sup>5</sup> Hettrich (1998) and Gerö (2001: 178–181) for example use the term for counterfactuals in Ancient Greek and cross-linguistically. De Decker (2021: 140; 2022) seems to misinterpret the synchronic typological concept of *irrealis* when he suggests that the optative is most *irrealis*.

<sup>6</sup> The discussion on the utility of this term continues to divide typologists. Recently, von Prince, Krajinović & Krifka (2022) have argued that “*irrealis* is real,” suggesting that “*irrealis*” *predominantly* covers the counterfactual and the possible domain in descriptions of languages, which in their eyes makes it a meaningful descriptive concept. However, their notion of the possibility domain covers both the possible in the strict sense (cf. the potential statement use of the optative in Ancient Greek) and the likely (as expressed by the subjunctive and future indicative in Ancient Greek). What complicates our understanding of such “*irrealis*” functions even more is that we know that there are many different developmental paths and processes which lead into this large “*irrealis*” domain (see Sansò 2020).

and claim that past counterfactual optatives and indicatives in early Indo-European varieties such as Archaic Greek are not always counterfactual. Moreover, I would argue that the addressed ‘you’ in example 1d was *not* there in the past to have said the words ascribed to him by the narrator, since he is the current addressee of this narration (contra De Decker 2021: 143; 2022: 175). In other words, this past was not possible at all, in contrast to, for example, true past potential modal verb uses such as *He may have forgotten*. Rather, with this stylistic figure the Homeric narrator explicitly *pretends* that the hearer would even have been there (a specific form of *apostrophe*).

What essentially distinguishes counterfactual constructions from non-counterfactual constructions is that the former express a so-called *polarity reversal* (Karttunen 1971; van Linden & Verstraete 2008; Verstraete & Luk 2021; la Roi 2024; la Roi forthc.). This means that sentences with counterfactual functions have the opposite polarity value of the polarity with which the sentence is marked, e.g. in (1a) they did *not* stop him, in (1b) they did *not* restore him intact, and in (1c) the addressee did *not* go to the shop on time and hence had actually stood in front of a closed shop (i.e. *would not have stood* = you did stand).<sup>7</sup> By contrast, constructions with a non-counterfactual function such as potential statements, realizable wishes, and so-called “hypothetical” conditionals express situations in the present or future which may or may not be true, e.g. (i) He may be right, (ii) I wish that they’ll win the game tomorrow, (iii) if they won the game today/tomorrow, they would go to the finals. Thus, they lack a polarity reversal. The same applies to true past potential uses of the modal verbs such as *He may have forgotten*, since the speaker suggests with this construction that the ‘he’ subject may or may not have forgotten. In contrast to these what I call “hypothetical” usages, counterfactuals entertain lost possibilities (in the eyes of the speaker).<sup>8</sup>

Moreover, counterfactual constructions occur in a variety of morphosyntactic and pragmatic contexts. For example, counterfactuals are not limited to conditional clauses. Rather, they can occur in a host of clausal environments such as purpose clauses, dependent questions, and non-finite clauses (cf. la Roi 2022b: 237 and especially la Roi 2022d: 117–126 for the diachronic spread of the counterfactual indicative across clausal contexts in Classical Greek). Also, the conditional sentences in which counterfactuals are found are not completely uniform, because the pragmatic relationship between the conditional (*p*) and matrix clause (*q*) may differ, and this affects the way in which counterfactual meaning is created. To illustrate, the following

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7 For a detailed investigation of the different constructions in Ancient Greek which have a different polarity value than the polarity that they are marked with (e.g. rhetorical questions or averted almost+past), see la Roi 2024.

8 Cf. Wakker 1994: 45, 132 on this aspect of counterfactuals.

three pragmatic types of counterfactual sentences differ both in their “sequentiality” (Dancygier 2006: 73) and pragmatic direction (see the arrows).<sup>9</sup>

- (4) Predictive: If I had left earlier, I would have been there on time.  $p \rightarrow q$   
 (5) Direct inferential: You would have found me at home if you had tried.  $q \leftarrow p$   
 (6) Indirect inferential: If I were guilty, I would have been charged.  $p \leftarrow q$

In (4), a prediction is made and the relationship between  $p$  and  $q$  is sequential, that is to say, iconic of the temporal order of events, as leaving preceded being on time. The counterfactuality of leaving earlier implicates the counterfactuality of being on time in 4 ( $p \rightarrow q$ , Wakker 1994: 152; Ziegeler 2000: 32–34; la Roi 2022c: 145–152). By contrast, in example (5), the events are sequential in themselves (occur one after the other), but the sentence does not express them sequentially: instead, the speaker supposes that trying was counterfactual and infers that *therefore* finding must have been counterfactual as well. The counterfactual implicature transfers from the conditional to the main clause due to subjective inference ( $q \leftarrow p$ ). A non-counterfactual alternative of a subjective use of a postposed conditional clause would be *she did not go to school today, if my mum was right*.<sup>10</sup> In example (6) the counterfactual implicature instead transfers from the main to the conditional clause, as the speaker argues, as it were, that not being charged implicates the counterfactuality of being guilty ( $p \leftarrow q$ ). The relationship between  $p$  and  $q$  is again not sequential, in contrast to predictive counterfactual structures.

## 2 The counterfactual life cycle and the development of counterfactual moods in Indo-European languages

Counterfactual markers typically combine functional elements to create a counterfactual meaning historically (van Linden & Verstraete 2008: 1869–1874). From a cross-linguistic perspective, languages prototypically choose to combine a past and a modal element to grammaticalize a counterfactual meaning, as done by Ancient Greek modal verbs in the past imperfect such as the deontic counterfactual  $\epsilon\delta\epsilon\iota$

<sup>9</sup> This typology was taken from la Roi (2022c), who devised a novel typology of conditionals with past tenses using insights from recent pragmatic typologies of conditionals (esp. Declerck & Reed 2001; Dancygier 2006).

<sup>10</sup> See la Roi 2022c for a discussion of the differences between such conditional strategies in Ancient Greek.

‘ought to (have)’, ἐχρῆν ‘should (have)’, or the boulomaic counterfactual ἐβουλόμην ‘(would have) wanted’. Such combinations may also have a perfect(ive) element, as in English modal verbs such as *He should have done it*, or, instead, combine only a perfect(ive) element without past tense with a modal meaning (van Linden & Verstraete 2008: 1881f.). Much rarer is the use of a direct marker that is dedicated to counterfactuality and is not analyzable (anymore) from a historical perspective. From a diachronic typological perspective, then, it seems unlikely that we should think of the counterfactual optative as being a single form that was used originally for the whole range of counterfactual and non-counterfactual functions, an issue to which I return below.

In fact, recent research on counterfactuals has pointed out important regularities in the diachronic development of counterfactuals. This research has resulted in scholarly attempts to provide a historical *life cycle* (Dahl 1997), *cycle* (Patard 2020), or rather *spiral* (Yong 2018) of counterfactuals. The idea of the life cycle of counterfactuals was first discussed by the eminent linguist Östen Dahl (1997). He, Patard, and Yong noted a cross-linguistically common historical pattern of temporal reference expansion in counterfactual markers: after (i) gaining a past-referring counterfactual function, originally past-referring counterfactual markers (ii) extended their temporal reference to the non-past, and (iii) this temporal reference extension contributed to a subsequent loss of counterfactuality by the form which was not dedicated to past counterfactuality anymore, thus leading to replacement by another form. For example, Dahl showed that the indicative pluperfect was grafted into the system of counterfactuality in the history of many Germanic languages (Dahl 1997: 106 on English, Swedish, and Norwegian, among others) as well as some Slavic languages (viz. Bulgarian), first referring to past counterfactuality (as new counterfactual markers do) but over time expanding its temporal reference to the present, cf. example (7).

- (7) *Om jag hade haft pengar nu, skulle jag ha betalat dig*  
 ‘If I had had money enough (now), I would have paid you [but I do not have money so I cannot pay you now]’

Using a large-scale typological and diachronic study, Yong (2016: 237–298; 2018) expanded on Dahl’s pertinent observations and provided more cross-linguistic diachronic evidence that supported these changes: (i) some languages in which counterfactuality remains a cancelable implicature only have it in the past (Yong 2016: 240); (ii) past modal verb constructions first develop a past counterfactual function after which they extend their temporal reference to the non-past (Bybee 1995; Yong 2016: 252; la Roi 2024; la Roi forthc.); (iii) imperfective and perfective counterfactuals are first limited to the past but extend to the non-past diachronically (Yong 2016: 268; 2018: 185f., 191). Crucially, the typological evidence that has thus far been

gathered clearly demonstrates that the development of counterfactuals follows the counterfactual life in tense-prominent languages such as the Germanic languages (Dahl 1997) as well as aspect-prominent languages such as Bulgarian (Dahl 1997), Hindi (Yong 2016; 2018), and Ancient Greek (la Roi 2022b; la Roi 2024; la Roi *forthc.*).

Yong (and Patard) also pointed out that the first usages of markers as past counterfactuals can be found in a specific type of pragmatic context in which the dependence on a condition known to be false is signaled. As discussed in la Roi 2022b: 247f. with earlier literature, such contexts also functioned as a bridging context for the replacement of the inherited counterfactual optative by the counterfactual indicative in Homeric Greek, where the matrix clause may still have the optative but the conditional clause already has the innovative indicative, as in example (8).

(8) past-referring counterfactual optative and indicative

καί νύ κεν ἔνθ' **ἀπόλοιτο** ἄναξ ἀνδρῶν Αἰνείας,  
**εἰ μὴ** ἄρ' ὄξυ **νόησε** Διὸς θυγάτηρ Ἀφροδίτη  
 μήτηρ, ἣ μιν ὑπ' Ἀγχίση τέκε βουκολέοντι:

'And now **would** the lord of men, Aeneas, **have perished**, **had not** the daughter of Zeus, Aphrodite, **been quick to notice**, his mother, who conceived him to Anchises as he tended his cattle.' Il. 5.311–313

Furthermore, Patard (2020) has presented a counterfactual cycle<sup>11</sup> drawing on historical evidence from the developments shown by the counterfactual imperfect subjunctive and indicative in the history of Latin and French. Importantly, she provided relevant corpus evidence demonstrating the replacement of the inherited counterfactual subjunctive by the counterfactual imperfect indicative (which was not counterfactual before) from Classical Latin onwards. She also pointed to mixed contexts of a counterfactual sentence where the matrix clause is in the inherited counterfactual subjunctive but the conditional subordinate clause is already, innovatively, in the counterfactual indicative, as exemplified in (9).

<sup>11</sup> Due to the consistent renewals of counterfactual systems by replacements, Yong proposed to reconceive the cycle as a spiral (a term suggested originally by von der Gabelentz 1891: 251), although she did not discuss corpus evidence supporting the final stage of the cycle where the previously counterfactual marker acquires a non-counterfactual function (see Patard 2020; la Roi 2024; la Roi *forthc.* for corpus evidence of this stage). Nonetheless, I would argue that the idea of a spiral is a more accurate metaphor, because the replacements are never exactly the same as that which is replaced, as we will see for example with the larger aspectual range of the counterfactual indicative as opposed to the replaced counterfactual optative in Ancient Greek. In addition, even classic cases of cyclical development such as the famous Jespersen cycle have been described as a spiral because the replacing element is not exactly the same as the element that it replaces (see Mosegaard Hansen 2018 for a recent overview).



## (9) past-referring counterfactual subjunctive and indicative

*Ipsam tibi epistolam misissem, nisi tam subito fratris puer proficiscebatur*  
 ‘I should have sent you the letter itself, if my brother’s servant **was not starting** so suddenly.’  
 Cic. *Att.* 8.1.2<sup>12</sup>

As predicted by the cross-linguistic historical trajectory of counterfactuals, such counterfactual imperfect indicatives were indeed first limited to the past, but soon expanded to non-past temporal reference. In fact, in Late Latin, Patard suggests, the previously counterfactual imperfect indicative starts to occur in ‘hypothetical’ future-referring environments. In other words, she argues that its non-past counterfactual function was gaining a non-counterfactual usage that referred to the non-past as well and thereby encroached further on the non-counterfactual usages of the subjunctive.

In sum, the temporal reference extension of counterfactual markers can provide effective means to measure their relative evolutionary status. For example, a counterfactual marker which is still only limited to the past is likely not to have evolved yet, whereas one that is in a great majority of instances or exclusively used to refer to the non-past has evolved further already. In a recent paper on the history of counterfactual mood forms in Archaic and Classical Greek, I have shown (la Roi 2022b) that temporal reference extensions are a useful tool to measure the replacement process of the counterfactual optative mood by the counterfactual indicative mood. For example, the innovative counterfactual indicative (Ruijgh 1992; Wakker 1994: 205–214; Gerö 2001; Allan 2013: 39–41) was mostly limited to past counterfactuality in Archaic Greek in direct inferential contexts (incl. mixed ones with the older counterfactual optative, as in 8). Yet, over time the uses of the counterfactual indicative extended to non-past-referring counterfactuality and thereby effectively replaced the counterfactual functions of the inherited counterfactual optative.

Furthermore, I demonstrated that temporal reference extensions in counterfactual mood forms are constrained by the aspect system of Ancient Greek. For example, imperfect indicatives extend their temporal reference due to their unbounded viewpoint before a bounded aspect such as the aorist does. The diachronic role of aspect can be illustrated by the fact that the only two present-referring counterfactual indicatives in Homer are in the imperfect expressing an event with an atelic actionality, *Od.* 2.184 (ex. (12) below) and 19.283. This shows that non-past counterfactual functions from the next stage of the counterfactual life cycle are developed first in Ancient Greek by those combinations that describe an event as maximally open, i.e. imperfective and atelic. Thus, tense and aspect play different roles in the de-

<sup>12</sup> The example and translation stem from Gildersleeve & Lodge 1895: 386.

velopment of counterfactuals and should be kept separate. I have suggested distinguishing between the grammatical tense (e.g. past), grammatical aspect (e.g. aorist), temporal reference (e.g. past-referring), and actionality in clausal context (e.g. telic ‘I walk to the shop’ vs. ‘I live’), following Bertinetto & Delfitto 2000: 190f. After all, counterfactuals quintessentially defy existing predictions about the relationship between tense, aspect, and actionality with temporal reference. A past tense in the counterfactual aorist indicative may refer to the present, as in example (10).<sup>13</sup>

- (10) a. ἄν...νυνὶ παρέσχου  
           ‘would now produce’ D. 18.76.1
- b. εἰ μὲν γὰρ ἦν μοι χρήματα, ἐτιμησάμην ἄν χρημάτων (...) νῦν δὲ οὐ γὰρ ἔστιν  
           ‘If I had money, I would propose a fine (...) but I do not have money now’  
Pl. Ap. 38b

The temporal reference in counterfactuals thus can be encoded (e.g. in past-referring counterfactuals with functioning aspectual construal), but in non-past temporal reference it can be created through temporal implication, complex matters which lie outside the scope of this paper.<sup>14</sup>

Now, as for Proto-Indo-European (henceforth PIE) and early Indo-European (henceforth IE) languages, much less research has been carried out on the developments of counterfactual mood. Also, much less agreement can be found on relevant questions of reconstructing mood functions, in particular the question of the counterfactual functions of the optative. Yet, crucially, Brugmann (1904: 586) had already suggested that we can see various renewals of the optative’s functions in the early IE languages (calling them “Neuerungen der Einzelsprachen”). At the same time, he is also not completely alone in hypothesizing that both the counterfactual and non-counterfactual functions of the optative (e.g. in conditionals, wishes, and statements) may go back to PIE (Brugmann 1904: 586; Strunk 1984: 145f.).<sup>15</sup> By contrast,

<sup>13</sup> As a result, the tense and aspect in such non-past-referring counterfactuals is sometimes called ‘fake’ (Iatridou 2000; Grønn 2013).

<sup>14</sup> For useful discussion of the role of temporal implicatures as the result of tense and aspect in Ancient Greek (instead of relative tense), see Méndez Dosuna 2017.

<sup>15</sup> Brugmann 1904: 586: “Der Opt. ging seit uridg. Zeit auf Gegenwärtiges, Zukünftiges und Vergangenes. Die Beziehung auf eine für die Vergangenheit vorgestellte Handlung erscheint nur noch im Ai. und in der ältesten Gräzität (§ 759. 760). Die im Folgenden zu besprechenden Neuerungen haben nun alle das gemeinsam, dass durch sie ein besonderer Ausdruck für den ‘Opt. Prät.’ gewonnen worden ist. Die Wege, auf denen man zu diesem kam, waren verschiedene.” However, note that the past counterfactual use of the optative is more widespread than Brugmann suggests here, e.g. in Gothic as discussed below.

others have tentatively suggested that the past counterfactual function of the optative, most probably due to its infrequent use in comparison to its replacement in languages such as Archaic Greek (see §3 below), was a more archaic use of the optative than its other usages (Ruijgh 1992: 81f. Wakker 1994: 210 fn. 168). The latter scenario would also be in line with the developmental path of counterfactual markers, as they always start out as past counterfactual. As a result, the speculation by Hettrich (1998: 263–266), as discussed below, that the past counterfactual use of the optative is a new creation of IE languages because the counterfactual optative is not limited to the counterfactual past in early IE languages, becomes less credible. In fact, I would argue that it seems to reverse diachronic facts: the counterfactual past is not expressed *anymore* by the counterfactual optative in some languages, meaning that it is the situation resulting from diachronic replacements which first replace the past-referring counterfactual optative and only subsequently the non-past counterfactual optative (cf. la Roi 2022b). Since the counterfactual optative is in more innovative branches limited to non-past reference (i.e. lost its older past-referring counterfactual function), I think that we possess suggestive evidence from which we could internally reconstruct the developmental pathways and, to some extent, the functional prehistory of the optative.<sup>16</sup>

### 3 The prehistory of the optative: functions, temporal reference and reconstruction

Until now, most recent research on the prehistory of the optative has either focused on formal matters, e.g. the innovation of primary endings over the PIE secondary endings in some branches (cf. Willi 2018: 11) or on the question of which function was earlier, wish ('cupitive') or potential (see the summary with references by Pitts 2019).<sup>17</sup> As for the alleged functional origins of the optative, Brugmann (1916: 805) had already acutely observed that Delbrück's reasoning about the "Grundbedeutung" (of potential or wish) can both on a conceptional and a historical level be supported in either direction.<sup>18</sup> He therefore concludes that we cannot know the

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<sup>16</sup> For the utility of internal reconstruction based on both typological and diachronic grounds, see Givón 2000; Campbell 2013: 197–220.

<sup>17</sup> Even more contentious reconstructions have been proposed though, for example that both the subjunctive and optative had their origin in futures (Hahn 1953; Shields 1992: 115–120), theories which have found no following.

<sup>18</sup> Cf. the discussion by Schwyzer & Debrunner 1950: 320 of both directions being possible, as they compare them to the polysemy of the German and English modal verbs *mögen/may* in both potential

diachronic relationship between the wish and statement functions of the optative (covering counterfactual and non-counterfactual functions of the optative) because according to him these functions belong to PIE. Also, the idea that in Ancient Greek the modal particle indicates the difference in function and might be thought to point to a secondary nature of the statement function can be countered by the absence of such a morphosyntactic strategy in other languages like Gothic, Vedic, and Archaic Latin.<sup>19</sup> Note also that the wish function of the optative undergoes renewal by so-called in subordinate wish structures, i.e. subordinate clauses which became like main clauses with their own illocutionary force (cf. English *if only*), as we can see in Archaic Greek εἰ, εἰ/αἰ γάρ ‘if (only)’, and ὥς ‘(o) that’ and Archaic Latin *ut* and *utinam* ‘(o) that’ (cf. German *dass doch* or Spanish *que* wishes), as noted by la Roi (2021; 2022a).<sup>20</sup>

One thing that does seem to be most commonly agreed for PIE is that the secondary endings on the optative were original (Strunk 1984: 144–146; Fortson 2010: 106; Meier-Brügger 2010: 299; Lundquist & Yates 2018: 2147; Willi 2018: 10–12). The optative, due to for example the ablaut in its athematic forms, is indeed a very old form (Strunk 1984: 144f.). There is less agreement on what these endings will have meant in PIE, reflecting a slowly closing gap in form-functional comparison and reconstruction in IE linguistics more generally. As suggested in la Roi 2022b: 276, it would for example be very tempting to hypothesize that the original secondary endings on the PIE optative provide suggestive evidence of an old connection of the optative to past temporal reference; after all, that might support the suggestion that the past-referring counterfactual function of the optative is its oldest attested function in early IE languages (though that naturally does not mean that it is the optative’s original function). Like modal verbs marked with the past indicative which extend their temporal reference to the non-past (such as English ‘ought’ or Ancient Greek modal verbs, for which see §4 below), the optative’s development of non-past functions might in that scenario perhaps explain why it has secondary endings but does not only refer to the counterfactual past and non-past but also to the non-counterfactual present and future in some early IE languages (*pace* Willmott

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and wish usages. Still, these do not allow direct comparison with the optative, because the optative mood is a grammaticalized inflectional means (rather than a modal combination with an infinitive) and directly encodes the speaker’s wish, cf. Rix (1986: 10).

<sup>19</sup> See the overview provided by Colvin 2016 and la Roi 2022d: 114–120 for the differences between the modal particles and their relative antiquity.

<sup>20</sup> These works are simply ignored by De Decker (2022: 159) who revives Lange’s old idea from 1872 of conditional markers deriving from wish clauses without reference to the extensive critiques by Wakker 1994: 386–394 and la Roi 2021: 2–14.

2007: 114f.; Allan 2010: 301f.).<sup>21</sup> However, the received view in IE linguistics holds that the secondary endings had no past-referring function per se in PIE, but only received this contrastive orientation when the system introduced primary endings later (Strunk 1984: 146), making matters of functional reconstruction more complex.

Needless to say, these formal and functional matters take us deep into PIE reconstruction, where less and less certainty may be claimed, even though we can and should make some steps forward. In fact, there seems to be some growing consensus that aspect played a prominent role in creating temporal reference in PIE before tense came to make its contribution (cf. the forming of a some consensus provided in Willi 2018: 45–57). As explained in the introduction, aspect still plays a key role for the past-referring counterfactual functions of the optative in Homeric Greek. This may, in my view, therefore strongly resemble the role of aspect (i.e. the combination of actionality and verbal aspect) in PIE in creating a past-referring counterfactual function for the optative.<sup>22</sup> Moreover, one would have to take a stance on an even more tentative area, that is, deciding whether we can reconstruct any function for the suffix of the optative, *\*-ieh<sub>1</sub>-/-ih<sub>1</sub>-*, but reconstructing a specific function of the suffix is bound to be extremely speculative. Still, what might perhaps be suggested, though, is that the suffix had a type of subjective epistemic meaning, as the English modals *would* in *He would have won yesterday* or *must* in *He must have won yesterday*. The reason for this is that this modal component, once combined with the aspectual properties of the verb, will have created the past counterfactual function of the optative: (a) [subjective epistemic component] speaker A expresses subjective view about event X + (b) [aspecto-temporal orientation of optative] uses aspectual means to place this in the past = (c) speaker uses the combination to express that event X *would have* taken place in the past also when it did not [=past counterfactual function through a quantity implicature, cf. van Linden & Verstraete 2008]. Nonetheless, the original meaning of the optative mood itself may remain obscure, something which may be expected given the difficulty of determining any original meaning of an inflectional mood.

Yet, keeping these caveats in mind, I do not think that we need to be similarly agnostic about the relationship between the counterfactual and non-counterfactual

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<sup>21</sup> For an overview of the remodeling of the endings of the optative (e.g. by primary endings or the creation of the future optative), see Willi 2018: 444.

<sup>22</sup> Actionality might have played a more important role in this process than grammatical aspect at first, as there are some suggestions that actionality (also called lexical aspect) was at the heart of the aspectual system of PIE before grammatical aspectual oppositions were introduced (cf. Strunk 1984; Rix 1986; Willi 2018).

functions of the optative:<sup>23</sup> both cross-linguistic and historical evidence from early IE languages do suggest, as a form of cumulative evidence, a *likely* developmental pathway between the two functional domains: from (a) its past-referring counterfactual function, the optative (b) came to refer to the non-past, after which (c) it developed non-counterfactual functions (e.g. potential statements or realizable wishes about the non-past). After all, when epistemic counterfactuals lose their counterfactuality over time but retain the non-past reference which they had acquired, they become ‘hypothetical’ (as noted above and discussed below in §4 with parallels from Greek), in the sense that they concern potential/hypothetical events that refer to the present or future. Moreover, there seems to be some frequency evidence which, taken cumulatively, suggests that the non-counterfactual usages in Archaic Greek are later developments. The non-counterfactual non-past usages (e.g. in the potential and wish optative) in Archaic Greek are much more frequent than their older counterfactual usage (la Roi 2022b), e.g. 147 realizable wishes in Archaic Greek (88% referring to the future and 12% to the present). By contrast, counterfactual wish optatives (i.e. not in an in subordinate wish construction with e.g. εἰ/αἶ γάρ) occur only *once* referring to the past and 13 times to the present, cf. *Od.* 18.79. More importantly, the counterfactual mood alternatives which are grammaticalized in later stages of early IE languages seem to take over the oldest function of the optative first (past counterfactuality) and only subsequently the more recent functions (e.g. non-past counterfactuality), following the developmental pathway of counterfactuals (see §5). In order to assess the functional evidence for this developmental hypothesis, we would need to review the evidence for the optative and its replacements in other early IE languages. After all, the past-referring counterfactual function of the optative seems to be an archaic feature which is only retained in some early IE languages with a relatively archaic verbal system (e.g. Vedic, Gothic). Therefore, I detail the internal evidence for the counterfactual and non-counterfactual usages of the optative, the moods in which the optative and its functions have been syncretized (e.g. subjunctives in Latin (Fortson 2010: 107)) and its replacements in the following early IE languages: in §4 Ancient Greek (Greek), and in §5 Sanskrit and Avestan (Indo-Iranian), Latin (Italic), Old Irish (Celtic), Tocharian A and B (Tocharian), Gothic, Old English and Old High German (Germanic), Old Church Slavonic (Balto-Slavic), Hittite (Anatolian), Armenian, and Albanian. In §6, I synthesize my findings into a tentative diachronic typology of counterfactual mood of early IE languages.

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23 For example, Tichy (2002: 196, 205) does not mention the counterfactual usage in her reconstruction of the PIE mood system, but Strunk (1984: 145f.) does and suggests that the originally secondary endings fit the optative’s functions.

## 4 The life cycles of counterfactual moods in Archaic and Classical Greek

The literature on counterfactual mood functions in Archaic and Classical Greek has focused on the counterfactual indicative in the conditional and (sometimes) main clause, consequently lacking a unified analysis of the different replacements<sup>24</sup> of the counterfactual optative by the counterfactual indicative (la Roi 2022b provides a detailed summary of earlier work).<sup>25</sup> Therefore I have analyzed the usage of the counterfactual moods across different clause types and illocutions in both Archaic Greek (viz. 424 occurrences in Homer, Hesiod, and the Homeric Hymns) and Classical Greek (viz. 1650 occurrences in the histories of Herodotus, Thucydides, and Xenophon; the tragedies of Aeschylus, Sophocles, and Euripides; the comedies of Aristophanes; Plato's authentic philosophical works; and the oratory of Lysias, Demosthenes, Isaeus, and Isocrates).<sup>26</sup> The main advantage of this large corpus is that it allows me to improve upon generalizations from the literature which turn out to be somewhat simplistic in terms of explanation or precision of data. I will illustrate the findings below.

First, starting from our grammars, it has often been said that the counterfactual indicative filled a gap of past-referring counterfactuality which was left by the counterfactual optative (e.g. Schwyzer & Debrunner 1950: 321). However, the corpus evidence only supports this for conditional clauses, whereas the past-referring

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<sup>24</sup> Note that Gerö (2001) also made the connection between the idea that the counterfactual indicative replaced the counterfactual optative and the role played by the life cycles of counterfactuals, but explains the phenomenon from a different formal perspective.

<sup>25</sup> An exception in the literature is Willmott 2007: 48–52, who goes against the commonly accepted idea (both in the grammars and secondary literature) of a replacement and sees a modal difference in the use of either mood. As discussed below, both the different types of corpus evidence from Archaic Greek and the internal evidence of replacements of the counterfactual optative from early Indo-European languages strongly argue against this. Another problematic account is provided by De Decker (2022), whose search for “the difference between the optative and the ‘modal’ indicative” reduces diachronic variation to a synchronic question. Even more problematic is that he simply suggests changing the text of a counterfactual indicative into an optative and the reverse when they fail his metrical tests because a transmitted counterfactual indicative may allegedly “hide” an older optative (De Decker 2021: 166). Changing Homer's transmitted text based on a choice of metrical tests would be going down a slippery slope, in my view.

<sup>26</sup> Since my data is based on collocation searches in the *Thesaurus Linguae Graeca* within a set distance (e.g. past indicative and  $\acute{\alpha}\nu$  5 words apart or conditional subordinator and past indicative 7 words apart) and subsequently sifting through all the cases, I cannot claim to be exhaustive for Classical Greek in its entirety. However, due to the large corpus and relatively broad distance parameters, it likely covers the vast majority of the examples in Classical Greek.

counterfactual optative is still attested in other environments such as declarative main clauses as in (11). In the examples, I put the forms under discussion in bold.

(11) past-referring counterfactual optative

ὦ φίλοι Ἀργείων ἡγήτορες ἡδὲ μέδοντες  
**εἰ** μὲν τις τὸν ὄνειρον Ἀχαιῶν ἄλλος **ἔνισπε**  
 ψευδός **κεν φαῖμεν** καὶ **νοσοιζοίμεθα** μᾶλλον·  
**νῦν δ' ἶδεν** ὅς μὲγ' ἄριστος Ἀχαιῶν εὐχεταί εἶναι·  
 ἀλλ' ἄγετ' αἶ κέν πως θωρήξομεν υἱας Ἀχαιῶν.

‘My friends, leaders and rulers of the Argives, **if** anyone else of the Achaeans **had told** us this dream, we **would have said** it was a lie and rather **turned away** from it; **but now he saw it** who declares himself to be far the best of the Achaeans. But come, let us see if somehow we can arm the sons of the Achaeans.’ Il. 2.79–83

Observe the use of the past tense ἶδεν with νῦν after the past counterfactual to return to the factual past.

Second, the counterfactual indicative allegedly only referred to the counterfactual past in Archaic Greek, but this is evidently not the case, as shown by the innovative present-referring counterfactual imperfect in example (12):

(12) present-referring counterfactual indicative and present-referring counterfactual optative

αὐτὰρ Ὀδυσσεὺς  
 ὤλετο τῆλ', ὥς καὶ σὺ καταφθίσθαι σὺν ἐκείνῳ  
 ὠφελος· **οὐκ ἂν τόσσα** θεοπροπέων **ἀγόρευες**,  
**οὐδέ κε** Τηλέμαχον κεχολωμένον ὦδ' **ἀνιείης**,  
 σῶ οἴκῳ δῶρον ποτιδέγμενος, αἶ κε πόρρησιν.

‘As for Odysseus, he has perished far away, as you also should have perished with him. Then you **would not have so much to say** in your reading of signs, **or be urging** Telemachus on in his anger, looking for a gift for your household, in hopes that he will provide it.’ Od. 2.182–186

The counterfactual indicative refers to the unwanted prophesizing that Halitherses is doing now. Note also the synchronic overlap in usage that we find in Homer, as we of course also still find present-referring counterfactual optatives (see ἀνιείης ‘would be urging’ in line 185). In fact, an example such as (10) points to the role of aspect in the diachronic extension of temporal reference, as the only two present-referring counterfactual indicatives from Archaic Greek are imperfect indicatives. I explain this as the result of the unbounded viewpoint of the imperfect which allows a state of affairs to extend beyond its boundaries in the past. In Classical Greek,



counterfactual imperfects refer to the counterfactual present (e.g. *E. Med.* 539f., ex. (2c)) and even future (*E. Alc.* 295, ex. (3b)) the most, due to their aspectual value, with the imperfect indicative accounting for 92% of all present-referring indicatives in declaratives (la Roi 2022b: 251). By contrast, future-referring counterfactuality cannot be expressed with the aorist or pluperfect indicative, which are only available for past and, more infrequently, present reference.

Third, some have suggested that counterfactual conditionals with the indicative were somehow the starting point for the systematic replacement (Ruijgh 1992; Hettrich 1998; De Decker 2015), but they differ on the details of the evolutionary process. By contrast, I have found evidence of formulaic renewal in Homer where the counterfactual optative is exchanged for the counterfactual indicative, as shown by the formulaic examples (13–14). Importantly, these examples are also so-called bridging contexts (see Heine 2002 for the concept) where the new counterfactual function is supported by contextual pragmatic clues, viz. the postponed negated conditional and the formulaic alternative *κεν*. After all, both examples are direct inferential sentences with which the speaker (i.e. the Homeric narrator) can infer the counterfactuality of the main clause: *because* Aphrodite/Diomedes was quick to notice, Aeneas/Nestor did not perish.

(13) past-referring counterfactual optative and indicative

Καί νύ κεν ἔνθ' ἀπόλοιτο ἄναξ ἀνδρῶν Αἰνεΐας,  
εἰ μὴ ἄρ' ὄξυ νόησε Διὸς θυγάτηρ Ἀφροδίτη  
'And now **would** the lord of men, Aeneas, **have perished, had not** the daughter of Zeus, Aphrodite, been quick to notice (i.e. and prevented it)' *Il.* 5.311f.

(14) past-referring counterfactual indicatives

καί νύ κεν ἔνθ' ὁ γέρων ἀπὸ θυμὸν ὄλεσσε  
εἰ μὴ ἄρ' ὄξυ νόησε βοὴν ἀγαθὸς Διομήδης  
'And now **would** the old man there **have lost his life, had not** Diomedes, good at the war cry, been quick to **notice** (i.e. and prevented it)' *Il.* 8.90f.

The fact that the more standard predictive (i.e. temporally iconic) counterfactual sentences with the indicative such as (15) are very rare in Archaic Greek underlines the role played by the pragmatically explicit counterfactuals, that is, direct inferential contexts. In other words, the spread in use of the counterfactual indicative away from its bridging context may be seen as a type of context extension, a process typical of grammaticalizing elements (see Narrog & Heine 2021: 57–65).

(15) past-referring counterfactual indicatives

εἰ δὲ φθεγγαμένου τευ ἦ αὐδήσαντος ἄκουσε,  
σύν κεν ἄραξ' ἡμέων κεφαλὰς καὶ νῆϊα δοῦρα

μαρμάρῳ ὀκρίονεντι βάλων· τόσσον γὰρ ἴησιν  
 ‘And **had he heard** one of us uttering a sound or speaking, **he would have hurled** a jagged rock and crushed our heads and the timbers of our ship, so strongly does he throw.’  
*Od.* 9.497–499

The fact that we have more corpus evidence for such direct inferential usages than in counterfactual interrogatives (for which we find one past-referring counterfactual optative (*Il.* 19.90) but two indicative forms (*Il.* 22.202 and *HH* 3.324), is because such if-not situations are a favorite narrative strategy of the Homeric narrator to create suspense (see de Jong 1987; Bouxsein 2020).

Fourth and finally, the relative frequencies of the usages of the optative and indicative in Archaic Greek are particularly revealing of the trajectory taken by the counterfactual optative into the non-counterfactual optative. Because the counterfactual function of the optative is a more archaic usage than the innovatively counterfactual functions of the indicative in Archaic Greek, it is considerably less frequent, for example in declaratives (40 counterfactual optatives vs. 148 counterfactual indicatives) and conditionals (18 counterfactual optatives vs. 93 counterfactual indicatives). More importantly, counterfactual optatives are only still attested in their oldest past-referring usage in a restricted set of environments, for example in declaratives but not anymore in conditionals in Archaic Greek (la Roi 2022b: 245, 257). In Classical Greek, the counterfactual indicative is the only option in counterfactual conditionals and declaratives (occurring 641 and 711 times, respectively, in these environments in my corpus) and with different temporal references. Also, in Classical Greek, the counterfactual indicative extended beyond the original confines of the counterfactual optative, as it is also used in clause types for which it was absent for the optative (e.g. result clauses as at *D.* 18.30.9 or non-finite clauses as at *Th.* 1.73.4, cf. Goodwin 1889: 67f.; la Roi 2022b: 254).

Moreover, already in Archaic Greek, the usage of the previously counterfactual optative in non-counterfactual environments has come to dominate: I have recorded (la Roi 2022b: 257) a total of 404 occurrences of the non-counterfactual optative in Archaic Greek declaratives that refer to the present or future (in particular: 184 in the *Iliad*, 65 in the *Odyssey*, 27 in *Hesiod*, and 28 in the *Homeric Hymns*). I would like to suggest that, because such non-counterfactual usages refer to the present and especially the future, they are to be seen as the outcome of the *bleaching away* of the counterfactuality from the non-past counterfactual usage of the optative. As shown by example (16), this optative has lost its counterfactuality as it refers to a ‘hypothetical’, that is, a realizable possibility in the future (cf. the dependent purpose clause in the subjunctive).

(16) future-referring ‘hypothetical’ optative usage

τὴν δ’ αὖτε προσέειπεν ἀνὴρ, ὃς μίσγετο λάθρη·

ἧ ῥά κε νῦν πάλιν αὖτις ἄμ' ἡμῖν οἴκαδ' ἔποιο,  
 ὄφρα ἴδη πατρὸς καὶ μητέρος ὑπερφεφές δῶ  
 αὐτούς τ'; ἧ γὰρ ἔτ' εἰσι καὶ ἀφνειοὶ καλέονται.'

'Then the man who had lain with her in secret answered her: "**Would you then return** again with us to your home, **that you may see** the high-roofed house of your father and mother, and see them too? For truly they are still alive, and are accounted rich."  
*Od.* 15.430–434

In fact, there are direct parallels for such bleaching away of counterfactuality by previously counterfactual markers, both cross-linguistically (see §1 above) and in the history of Greek modal verbs.<sup>27</sup> A first parallel is the loss of counterfactuality by the previously counterfactual wish particle ὄφελον (in combination with the past indicative) as it becomes "hypothetical," that is, combinable with non-counterfactual moods such as the optative and subjunctive in Post-Classical Greek, e.g. *LXX Ps.* 118:5 and *Enoch* 97:11 (Revuelta Puigdollers 2017: 183). A second parallel is provided by deontic counterfactual modal verbs in Classical Greek which could already refer to the non-past but are losing their counterfactuality. As exemplified by example (17), the past imperfect deontic modal ἔδει 'it ought to' refers to the real present, because Xanthias is already carrying the baggage (i.e. ἔδει cannot mean 'ought to carry (but actually am not)'). As such, ἔδει is used in much the same way as the non-counterfactual way in which English modals 'ought/should' can be used.<sup>28</sup>

(17) non-past-referring non-counterfactual modal verb

τί δῆτ' ἔδει με ταῦτα τὰ σκεύη φέρειν,  
 εἴπερ ποιήσω μηδὲν ὦνπερ Φρύνιχος  
 εἴωθε ποιεῖν;

'Then why **ought I carry** this baggage, if I will not do any of the stuff Phrynichus usually does?'  
*Ar. Ran.* 12–14

To sum up, there is a common historical link between non-past counterfactual and "hypothetical," i.e. present/future-referring non-counterfactual, usage.<sup>29</sup>

Another diachronic connection of the archaic past counterfactual function of the optative, I argue, is provided by the past habitual usage which in Archaic Greek

<sup>27</sup> On the diachronic role of semantic bleaching in the histories of Ancient Greek modal forms, see Allan 2013.

<sup>28</sup> Cf. Ruiz Yamuza (2021), who noted the loss of counterfactuality of these modal verbs but did not give a diachronic explanation for them. See la Roi 2024; la Roi forthc.

<sup>29</sup> Markopoulos (2009: 163) also points to a relevant parallel from the history of Greek: the counterfactual use of the auxiliary εἶχα+infinitive 'could have' developed into a "hypothetical" to express "speculative conditionals" after it "gained wider scope of application."

was still, as a relic, expressed by the optative. By contrast, in Classical Greek, past habituality (i.e. referring to an event that took place on the majority of different occasions)<sup>30</sup> came to be expressed by the previously past counterfactual indicative with the modal particle ἄν. The Classical Greek habitual construction, according to la Roi (2023),<sup>31</sup> derives from the past counterfactual usage of the indicative with the modal particle in Archaic Greek, because (i) this construction also uses aspects (i.e. aorist and imperfect) with their typical aspectual effect (cf. Allan 2019), (ii) it shares elements of epistemic inference about the occurrence of a past event and a lack of specifying evidential support (Givón 1994: 323) with past counterfactuals, and (iii) there is cross-linguistic evidence for the historical connections between past counterfactuality and past habituality.<sup>32</sup> As shown in example (18), aspect has its typical effect in past habituais (as it does in past-counterfactuals, cf. ex. (15)) because this aorist of a stative verb provides an ingressive reading.<sup>33</sup> As in past counterfactuality, this past habitual provides an inference that a past state of affairs would occur, differing in the implication that this fulfilment happened on most occasions instead of one specific one.

(18) past-referring habitual indicative

ὁ θεασάμενος πᾶς ἄν τις ἀνὴρ ἠράσθη δάϊος εἶναι.

‘every single man who watched it **would get hot** to be warlike.’ Ar. *Ran.* 1022

<sup>30</sup> Note, however, that there is inaccurate terminology in the literature to refer to this habitual construction, such as “iterative” (which actually refers to repetition on the same occasion, e.g. *search for keys all morning or knock on the door*). For example, the term iterative is used to refer to the habitual construction in example (16), see Goodwin 1889: 56; Schwyzer & Debrunner 1950: 350; Wakker 1994: 159; 2006; Crespo, Conti & Maquieira 2003: 286; Beck, Malamud & Osadcha 2012: 53; van Emde Boas et al. 2019: 415.

<sup>31</sup> Following suggestions in our grammars, Wakker (1994: 156–166) suggests that the so-called past potential is the diachronic source of the past habitual, even though she rightly observes that we possess no convincing corpus evidence for this construction, as the allegedly past potential examples are counterfactual in context (e.g. the Homeric trope ‘you would have said X [if you were there, but you weren’t]’).

<sup>32</sup> Compare the situation in Hindi (Karawani 2014: 112), Modern Greek (Méndez Dosuna 2017: 71), or Ute where it marks future, habitual, future in the past, counterfactual, and other functions (Givón 2011: 134; Sansò 2020). The connection between future in the past and past habituality is also evidenced in Greek diachrony, as la Roi (2023) observes that past futurity auxiliaries develop past habitual senses in the diachrony of Greek such as ἔμελλον in Classical Greek and εἶχε (νά) in Medieval Greek.

<sup>33</sup> For an overview of the typical and atypical usage of aorist and imperfect, see Allan 2017; 2019.

Crucially, the same process can be thought to lie behind the past habitual usage of the optative that we sometimes still find in Archaic Greek.<sup>34</sup> It is generally held that what is traditionally called the “iterative optative” in a construction such as (17) and (18) is the past counterpart of a similar usage by the subjunctive for future-referring situations in Archaic and Classical Greek. However, this traditional explanation does not answer the question why the optative, which almost always refers to the present or future, is used to refer to the *past*.<sup>35</sup> I would argue that (1) this so-called “iterative optative” comprises both habitual (i.e. occurring in the majority of past occasions (Dahl 1985: 97; Bybee, Perkins & Pagliuca 1994: 127)) and generic usages (i.e. occurring on all those past occasions),<sup>36</sup> and that (2) the past habitual usage of the optative has developed out of the past counterfactual usage of the optative for which we still possess some traces in the Archaic Greek of Homer. In (19) the vintagers would *habitually* gather the vintage, while in (20), the groaning and seeing would *always* go hand in hand.

(19) past-referring habitual optative

μία δ' οἷη ἀταρπιτὸς ἦεν ἐπ' αὐτήν,  
τῇ νίσοντο φορῆες ὅτε **τρυγόμεν** ἀλωήν.

‘and there was one single path to it by which the vintagers went and came  
**when they would gather** the vintage.’ *Il.* 18.565f.

(20) past-referring generic optative

τὴν **αἰεὶ στενάχεσθ'** ὄθ' ἐὸν φίλον υἱὸν **ὀρῶτο**  
ἔργον ἀεικέες ἔχοντα ὑπ' Εὐρύσθηος ἀέθλων.

‘At the thought of her **he always groaned** whenever he **saw** his dear son in  
disgraceful toil at Eurystheus’ tasks.’ *Il.* 19.132f.

<sup>34</sup> This construction is traditionally called the “iterative optative” (van Emde Boas et al. 2019: 489–499) or in Anglo-Saxon terminology an “indefinite construction” (Probert 2015: 83), terms which in my view are slightly more imprecise with regard to the functions of the optative. Cf. la Roi 2023 for a discussion of the terminological problems surrounding iteratives, habituals, and generic constructions in Ancient Greek.

<sup>35</sup> The suggestion by Willmott (2007: 184, 190) that the optative is timeless and therefore can have past temporal reference does not offer a solution to the question why the “iterative optative,” which is only used with reference to the past in its archaic past counterfactual usage, has past temporal reference.

<sup>36</sup> Note that generic expressions need not be timeless, as “it is perfectly possible to claim that a characterizing property held in the past or will hold in the future, without any implication for the present,” Krifka et al. 1995: 6. See also Dahl 1985: 100, who notes examples such as *Dinosaurs ate kelp*, where the verb expresses quantification over all occasions (cf. *Church service was/is/will be on Sundays*).

After all, we also still find this past habitual use of the optative in the main clause as an archaic relic in Homer, as in example (21), where Odysseus explains how he used to use his bow very effectively during the fighting.

(21) past-referring habitual optative

πάντα γὰρ οὐ κακός εἰμι, μετ' ἀνδράσιν ὅσσοι ἀεθλοῖ·

εὖ μὲν τόξον οἶδα ἐύξοον ἀμφαφάασθαι·

**πρῶτός κ'** ἀνδρα **βάλοιμι** οἷστεύσας ἐν ὀμίλῳ

ἀνδρῶν δυσμενέων, εἰ καὶ μάλα πολλοὶ ἐταῖροι

ἄγχι παρασταῖεν καὶ τοξαζοῖατο φωτῶν.

'For in all things I am no weakling, not in any of the contests that are practiced among men. Well do I know how to handle the polished bow, and **always would I be the first to shoot** and hit my man in the throng of the foe, even though many comrades would stand by me and be shooting at the men.'

*Od.* 8.214-218

In fact, this past habitual usage of the optative is used in contexts where the more archaic past counterfactual usage of the optative was found as well, such as the main clause or a relative clause (as in past counterfactual *Il.* 13.344 versus past habitual *Od.* 17.317). As discussed below in §5.4, this past habitual function of the optative is also attested in other early IE languages. Finally, the later development of the past habitual indicative construction also supports the connection with past genericity, because, according to la Roi (2023), in early Post-Classical Greek the construction also acquires a past generic usage, cf. example (22).

(22) ἡνίκα δ' ἂν εἰσεπορεύετο Μωυσεῖς εἰς τὴν σκηνὴν

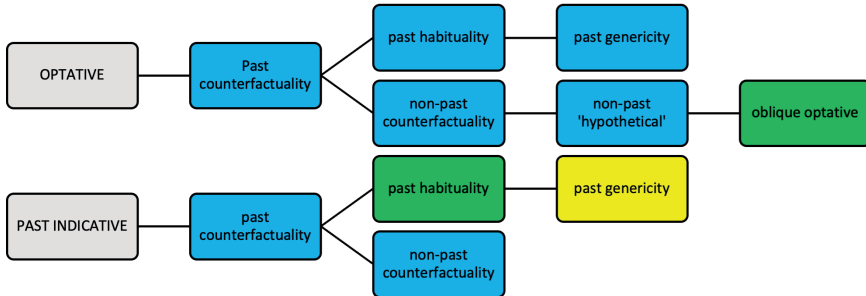
'whenever Moses went into the tent'

LXX Ex. 33:8

In Classical Greek, a past generic optative would be used in this clause. In fact, the creation of this construction was one of the factors contributing to the loss of the so-called "iterative" optative in Post-Classical Greek (cf. Turner 1963: 124f.; Mandilaras 1973: 286; Muraoka 2016: 327; la Roi 2023: 103f.). Finally, as for the oblique optative, Mendez Dosuna (1999; 2017: 69–72) has already shown that this function developed after Archaic Greek, as he suggests that true oblique optatives (as we know them from Classical Greek) are not found in Archaic Greek yet.

Summarizing, we can provide an internal reconstruction of the evolution of the optative explaining its inheritance from PIE to Classical Greek (Figure 1). The figure uses colors to indicate the period in which a usage shows up *for the first time* in the corpus evidence: Archaic Greek (blue), Classical Greek (green), Post-Classical Greek (yellow).

The question that remains is whether there is also sufficient evidence in the other early IE languages that supports the idea of a diachronic development from



**Fig. 1:** The evolution of counterfactual mood from PIE in Ancient Greek

past counterfactual optative to the other functions of the optative. After all, based on the corpus evidence from Archaic Greek the earliest function of the optative that seems to have been preserved (if infrequently) is its past counterfactual function. As argued above based on the available corpus evidence, the optative extended its temporal reference to non-past counterfactuality and eventually lost its counterfactuality (cf. the (i) very infrequent archaic use of past counterfactuality and past habituality in main clauses, (ii) the diachronic development into non-past counterfactuals following the life cycle and parallels within the history of Greek, and (iii) the very frequent non-counterfactual ‘hypothetical’ usage of the optative which further developed hypothetical functions in the oblique optative later on). In other words, given the fact that the corpus evidence for the optative in Ancient Greek follows cross-linguistically common paths of development for counterfactuals, this developmental scenario becomes more attractive than other scenarios which, for example, suggest that a non-counterfactual optative that referred to the non-past developed a past counterfactual usage (*pace* Hettrich 1998: 266, who saw the past counterfactual optative as an inner-Greek development despite its presence in other early IE languages). In the following section, I review the functional evidence from the other early IE languages, using grammars and existing studies, starting with the IE survey by Hettrich (1998).

## 5 Towards a diachronic typology of counterfactual mood functions in early Indo-European

### 5.1 Counterfactual mood functions in the Indo-European survey by Hettrich (1998)

In a thought-provoking survey of counterfactual mood expressions in IE languages, Hettrich noted the diversity of counterfactual mood renewals in early IE languages. What is of particular diachronic importance to the current investigation is that he seems to have noted an asymmetry in marking strategies of counterfactual mood in conditional sentences *based on temporal reference*. He provided a grouping of counterfactual mood marking strategies in early IE languages which should be the starting point for our diachronic investigation. I reproduce his grouping below:<sup>37</sup>

1. Irrealis der Gegenwart und Vergangenheit mit Optativ der Protasis
  - Germanisch (aus neuerer Zeit für das Altenglische)
2. Irrealis der Gegenwart und Vergangenheit mit Konjunktiv, in dem der frühere Optativ synkretistisch aufgegangen ist
  - Altirisch
3. keine morphologische Übereinstimmung des Protasis-Verbs zwischen Irrealis der Gegenwart und Irrealis der Vergangenheit:
  - Vedisch (im RV nur Irrealis der Gegenwart mit Opt. Prs.; Irrealis der Vergangenheit mit Konditionalis erst ab Vedischer Prosa)
  - Avestisch (Irrealis der Gegenwart mit *yaθa, yaθa yaŋ* und Opt. Prs. bzw. *yeidi zī* und Ind. Prs.; Irrealis der Vergangenheit mit Opt. Perf.)
  - Tocharisch (Irrealis der Gegenwart mit Optativ; Irrealis der Vergangenheit mit Ipf. der Kopula und Gerundivum II)
  - Homer (Irrealis der Gegenwart mit Optativ; Irrealis der Vergangenheit mit Indikativ Präteritum)
  - Altlatein (Irrealis der Gegenwart mit Konj. Prs., – wovon *sim, edim, velim* auf idg. Optative zurückgehen –, Konj. Ipf., Irrealis der Vergangenheit: Konj. Ipf., Plqpf.)

The first thing that one will notice is that Hettrich leaves out languages like Old Church Slavonic, Armenian, and Hittite, which actually do show marking symmetry but not with an inherited counterfactual optative or functionally syncretized

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<sup>37</sup> Hettrich 1998: 264f. also provided references to some grammars in the overview which I have filtered out here.



subjunctive (see the discussion below). His rationale for this exclusion is that the usage of other moods than the original optative does not allow for reconstruction, although I would disagree that they are worthless from the perspective of internal reconstruction. After all, his overview does mention other moods such as the subjunctive in Latin and Old Irish which syncretize functions of the inherited counterfactual optative.<sup>38</sup> Second, this overview is a slight simplification of diachronic processes. For example, the past-referring counterfactual optative from Vedic and the non-past referring counterfactual indicative from Archaic Greek are missing. In addition, we find symmetrical instances of a counterfactual optative in main and subordinate clause in Archaic Greek, which would mean that Ancient Greek belongs to both group 1 and group 2. Moreover, as we have seen in the corpus evidence from Archaic Greek, there is more overlap in temporal reference by the counterfactual optative and the replacing counterfactual indicative than Hettrich's overview would suggest. In fact, the usage for past-referring versus present-referring counterfactuality in this overview by respectively the inherited counterfactual optative and its replacer is emblematic of the diachronic temporal reference extension predicted by the life cycle of counterfactuals. After all, there are early IE languages which do have a symmetrical strategy for past- and present-referring counterfactuality but use the counterfactual mood replacement of the optative for it, as in Classical Greek that already lost the counterfactual usage of the optative. Third and finally, by virtue of his focus on the *counterfactuality* of moods, we cannot observe the diachronic connections of counterfactual mood usage in the non-past with “hypothetical” mood usage in the non-past, for which we do possess evidence (e.g. in Archaic Greek, Gothic and Latin).

Therefore, I propose that we take Hettrich's grouping as a partial blueprint for developing a diachronic typology of counterfactual mood in early IE languages. By reexamining the counterfactual mood marking in the languages mentioned in his overview from the perspective of the counterfactual life cycle, I suggest that we can internally reconstruct the developmental pathways of the counterfactual optative and its replacements in early IE languages. In particular, I demonstrate that the surviving functional evidence of (previously) counterfactual moods and their replacements follows very similar pathways of development to those that we found in Ancient Greek as well.

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<sup>38</sup> One may wonder why Archaic Latin and Old Irish were not put on the same level, as they both used counterfactual “subjunctives” in which the optative's functions had syncretized.

## 5.2 Past-referring counterfactual mood functions in Indo-European languages

In early IE languages we find two types of past-referring counterfactual mood usage. There are early varieties of early IE languages which still have the past-referring counterfactual optative (i.e. as optative or syncretized in the subjunctive), but there are also varieties that only have a counterfactual mood which already replaced the counterfactual optative from PIE. In the former group, the oldest past-referring counterfactual function is only preserved in a subset of early IE languages which, functionally, are known to have a relatively archaic mood system: Ancient Greek (see above), Gothic (ex. (23)), Vedic Sanskrit (as discussed in the previous section), Archaic Latin and Old Irish (the subjunctive, Thurneysen 1998: 334), and Iranian languages (e.g. Avestan, de Vaan & Martínez García 2014: 103, and Old Persian, Skjærvø 2017: 160). To illustrate, in Gothic, we find a relatively archaic verbal system as it “preserves some important morphological archaisms not found in the other Germanic languages” (Fortson 2010: 354) and the so-called preterite counterfactual optative is the counterfactual mood still used both for past-referring counterfactuality and non-past-referring counterfactuality (Dahl 1997: 230f.; Miller 2019: 457, 464).

### (23) past-referring counterfactual optative in Gothic

*niba weseina, aiþþau qeþjau du izwis*<sup>39</sup>

‘if (these things) were not so, **I would have told** you’

NT Jn. 14:2

In Archaic Latin, the functions of the optative have syncretized in what is called the “subjunctive” (Clackson & Horrocks 2007: 213). As a result, we find a similarly rich functional distribution in Archaic Latin as in Archaic Greek, because the subjunctive, in both the pluperfect and imperfect (see ex. (24)), could refer to the past and the imperfect and present to the counterfactual non-past (Handford 1947: 121; Clackson & Horrocks 2007: 213).<sup>40</sup>

### (24) past-referring counterfactual subjunctive in Archaic Latin

*quid uis fieri? factum est illud: fieri infectum non potest.*

*deos credo uoluisse; nam **ni uellent, non fieret, scio.***

‘What do you want to happen? It’s done. It can’t be undone. I believe it is

<sup>39</sup> The Greek text has εἰ δὲ μή, εἶπον ἄν ὑμῖν.

<sup>40</sup> De Melo (2007: 80) remarks about the use of the present subjunctive to refer to the counterfactual present in Archaic Latin that it might as well have been in the imperfect, but this situation differs by author; as Plautus has relatively more present-referring uses of the counterfactual present than Terence (Thomas 1938: 202f.).

the will of the gods: if they **hadn't wanted it, it wouldn't have happened**, I know that.'

Plaut. *Aul.* 741f.

While it is generally remarked that the system is regularized in Classical Latin, there is still considerable variation in temporal reference distribution, as we find the imperfect still used for the past (Hofmann & Szantyr 1965: 332).

Yet many early IE languages have, from the perspective of PIE, come to use a *replacement* for this past-referring counterfactual function instead of an inherited optative: Post-Vedic Sanskrit (the so-called conditional mood, Macdonell 1916: 129; Oberlies 2003: 163), Archaic and Classical Greek (past indicative), Old English (past indicative), Classical and Post-Classical Latin (indicative), Old Irish (“conditional” mood or “secondary future,” Thurneysen 1998: 332; Strachan 1896: 270), Tocharian A and B (gerundive with imperfect, Pinault 1992: 124f.; 2008: 607–609), Old Church Slavonic (“conditional mood,” being a past participle with an auxiliary verb of being, Lunt 2001: 114), Armenian (indicative, Meillet 1913: 109), Albanian (indicative, Lambertz 1915: 75) and Hittite (indicative, Hoffner & Melchert 2008: 1, 316, 422). Thus the majority, as in Ancient Greek, used the past indicative for counterfactuality instead. Some have adopted another alternative, such as the gerundive and imperfect periphrasis in Tocharian A and B or the so-called conditional mood in Old Irish. In Tocharian A and B, the past counterfactual usage of the optative seems to have been pushed out by the new replacement already, a gerundive with an imperfect, which, crucially, is built from the optative’s suffix and indirectly attests to the relevance of the optative for counterfactuality (Pinault 1992: 124f.; 2008: 607–609; Peyrot 2013: 272 and 337 with references). In Old Irish, the conditional mood (also called “secondary future” because it consists of the imperfect endings on a future stem) starts to replace the counterfactual subjunctive, both in past-referring counterfactuals and present-referring counterfactuals (Strachan 1896: 270). Also, as confirmed by languages for which we have longer periods of attestation such as Sanskrit, Ancient Greek, Latin, and English, these two groups are diachronically related, as the earlier stages still had the inherited counterfactual mood (group 1) but replaced it later on (group 2), e.g. with the conditional mood in Post-Vedic Sanskrit (Macdonell 1916: 367; Oberlies 2003: 163), the indicative in Greek and Latin (as discussed above), and the pluperfect in Old English being introduced as an alternative to the inherited subjunctive (see Molencki 1999: 90f.).

The diachronic relation between these two groups in marking past-referring counterfactuality brings up the vexed question whether the (counterfactual) optative had also been there in the Anatolian ancestor of Hittite. As stated by Lundquist & Yates (2018: 2147), its absence can be interpreted in two ways, either that the optative was lost (“inherited into Proto-Anatolian with subsequent evanescence”) or that “Anatolian had branched off before the category was developed” (see Kloekhorst &

Pronk 2019 for hypotheses on how to conceptualize this split). Without presuming to be able to solve the issue, the situation as we find it in Hittite may be less exceptional than it has been thought to be. After all, there are, as mentioned above, many other early IE languages where a counterfactual indicative has taken over from the inherited optative, leading to functional specialization of the optative for the non-counterfactual domain (e.g. as in Ancient Greek). Similarly, there are some early IE languages where the optative is a mere relic, both formally and functionally: for example, in Old Church Slavonic the optative has been repurposed as an imperative (Leskien 1909: 181, 193) and in Classical Armenian there was no counterfactual optative anymore, but some of its later non-counterfactual functions might have syncretized in the subjunctive, a mood for which the origin is more uncertain (Klingenschmitt 1982: 32–44). At least theoretically, then, it would be conceivable that the mood system as we find it in Hittite is a very innovative one where the optative had already been lost and had its counterfactual functions replaced by the indicative (cf. Rix 1986: 20). As a result, Hittite then would not be the *only* early IE language where we find a counterfactual mood system that has no diachronic relation to the counterfactual mood systems across early IE languages. Theoretically, this hypothesis connects to more recent findings on archaisms and innovations in early Anatolian languages that seek to caution researchers about the assumed archaicity of features in Anatolian languages such as Hittite. Norbruis (2021: 259), in his book on morphological archaisms and innovations in the early Anatolian languages Hittite, Luwian, and Lycian, concludes his analyses with the following observation:

In general, however, *I would caution against too enthusiastic an application of the Indo-Anatolian principle that the Anatolian data weigh as much as the rest combined*: the difference between PIE and the last common ancestor of the non-Anatolian languages is not extreme, and during the numerous centuries of its existence, most of them prehistoric, *Anatolian never stopped innovating*.  
(my italics)

His advice is supported by several case studies which point to evidence of Proto-Indo-European origins as well as of Anatolian innovation. The development of a counterfactual indicative that had replaced the optative before our earliest evidence from Hittite would thus be theoretically plausible. Or, in Norbruis' words, the Anatolian evidence would not have to weigh as much as the rest of the early IE languages combined.

### 5.3 Non-past-referring counterfactual mood functions in Indo-European languages

As with past-referring counterfactual usage, non-past-referring usages of the inherited counterfactual mood are only preserved for the inherited “optative” in some early IE languages that have an archaic mood system: Archaic Greek (discussed in §4), Gothic (Dahl 1997: 230f.; Miller 2019: 457, 464), Rigvedic Sanskrit (discussed below with reference to example 25), Archaic Latin (discussed in §2), and Old Irish (Strachan 1896: 248). To illustrate, in Rigvedic Sanskrit, the aorist and present optative can refer to the counterfactual present as seen in example (25) (example and translation from Dahl 2010: 231).

(25) *yád indra yávatás tvám etávad ahám íṣṭiya | stotáram íd didhiṣeya radāvaso ná pāpatvāya rāsīya*

**If**, Indra, **I had owned** as much as you, **I would indeed wish** to be generous to the singer, O dispenser of wealth. **I would** not **let** him fall into misery'

RV VII 32.18

Hettrich also suggested that there seems to be a Post-Vedic syntactic specialization of conjunctions in terms of counterfactuality, that is, *yád*+optative introducing counterfactual conditions and *yádi*+optative potential conditions (Hettrich 1992: 271).<sup>41</sup> In Post-Vedic Sanskrit we find several new replacements of the counterfactual optative which were not available in Rigvedic Sanskrit yet, as summarized by Oberlies (2003: 132f., 168). The so-called conditional mood is developed in Post-Vedic Sanskrit and starts to occur in past counterfactual usage (Oberlies 2003: 161), meaning that it starts its life cycle as a counterfactual marker limited to the past (Macdonell 1916: 367; Oberlies 2003: 163). Yet in Vedic prose we find some cases of a counterfactual conditional mood in the conditional and matrix clause which refer to the present, whereas Epic Sanskrit still uses the more archaic option of the present-referring counterfactual optative in the conditional clause (Delbrück 1888: 366; Oberlies 2003: 166). The speed of substitution is thus codetermined by register differences. In sum, the counterfactual conditional mood replaces the inherited counterfactual optative step by step, from past counterfactuality to non-past counterfactuality.<sup>42</sup>

<sup>41</sup> See, however, Macdonell 1916: 363 for an example of the optative with *yád* in the Rigveda which is not counterfactual.

<sup>42</sup> I refrain from discussing two other potentially interesting renewal candidates, the past indicative and the periphrastic future, for which Oberlies cautiously suggests some past counterfactual usages (Oberlies 2003: 160, 165). However, the examples with the indicative need not (all) be interpreted counterfactually, nor is the verbal status of the periphrastic future securely understood in the grammars (Lowe 2017).

Similarly, as the inherited counterfactual optative extended its temporal reference to the non-past, the replacement of the inherited counterfactual mood has extended to non-past temporal reference in early IE languages, e.g. the past indicative in Ancient Greek (discussed above), the conditional in Old Church Slavonic (Lunt 2001: 114 for examples),<sup>43</sup> past indicative in Armenian (Meillet 1913: 109), and the past indicative in Old English (ex. (26) below). In example (26), recorded by Brinton & Bergs (2017: 123), it is found in a mixed context: the counterfactual past indicative *wistest* and the inherited counterfactual “subjunctive” *weope* in the matrix clause.

- (26) *gif þu wistest hwæt þe toward is þonne weope þu mid me*  
 ‘If you **knew** what is to come to you, then you would **weep** with me’  
 ÆCHom i.412.67

This process of replacement by the counterfactual indicative in English was accelerated by the morphological merging of the subjunctive and the past indicative (Molencki 1999: 79), which points to the role played by the morphological factor of mood syncretism in the renewal of counterfactual mood (cf. Molencki 1999: 149f., who discusses the mood syncretism of the counterfactual subjunctive and indicative in English except for 1st singular *were/was*). By contrast, in other Germanic varieties such as Old High German these moods stay morphologically distinct (Lockwood 1968: 128f.), which is one of the reasons why the counterfactual “subjunctive” is still used today in German (e.g. *hätte, wäre*).

## 5.4 Past-referring habitual and generic functions of the optative mood in Indo-European languages

In addition to the connection between the past counterfactual and past habitual usage of the optative found in Ancient Greek, there are other early IE languages that preserve a past habitual usage in the optative. First of all, a past habitual usage of the optative is preserved in Tocharian A and B (see Peyrot 2013: 357, 321), supporting the suggestion that the optative had a past counterfactual usage before in Tocharian but that the optative had lost this function already. Second, the optative in Epic Sanskrit was also used for past habituais, for which see example 27 (example and translation from Oberlies 2003: 138). The presence of this archaic feature, as in Greek, Avestan, and Tocharian, could thus indicate the archaic status of the past counterfactual use of the optative.

<sup>43</sup> This innovative replacement is also retained in later Balto-Slavic languages such as Old Prussian, Serbo-Croatian, and Sorbian, see Vondrák 1908: 284f., 516f. for an overview.

(27) *mīthilāyām vased vyādhah*  
 ‘In Mithilā a hunter used to live’

Mbh 3.197.41 v.I. = 205.3 v.I.

Third and finally, a past habitual usage had also developed from the past counterfactual optative in other early IE languages (see §4), such as in Young Avestan and Old Persian (de Vaan & Martínez García 2014: 102f.; Skjærvø 2009: 137f.; Skjærvø 2017: 529 (with examples from both languages)). Note that the form received augmentation analogically due to its *past* habitual usage which was thought to be inherited into Avestan. De Vaan & Martínez García (2014: 102) even suggest that this usage could go back to Proto-Iranian: “Likewise, the present optative (almost always with the augment) functions as a past tense iterative. This usage has left traces in many Old, Middle, and Modern Iranian languages; this function could, therefore, go back to Proto-Iranian.” These relics of a past habitual usage of the optative in these early IE languages thus testify to the existence of the past counterfactual usage of the optative.

## 5.5 Post-counterfactual usages of the inherited optative and its replacements in Indo-European languages

Finally, as the counterfactual functions of the optative were lost to its replacements, the optative developed non-counterfactual functions in early IE languages, which, crucially, retain the non-past temporal reference that they had acquired historically. As discussed above in §4, the non-counterfactual domain is what remains of the optative in later stages of Ancient Greek, similar to how other previously counterfactual markers leave their counterfactual domain. The optative has, in my view, in a similar way developed non-counterfactual functions in other early IE languages, for example (i) the optative has evolved to non-counterfactual (‘hypothetical’) non-past usage in Vedic Sanskrit, as the present, aorist, and perfect optative occur in potential statements and potential wishes (Macdonell 1916: 361, 363–365; Gonda 1956: 192; Dahl 2010: 308), (ii) in Old Irish the inherited counterfactual mood extended its range to non-past “hypothetical” usage (Thurneysen 1998: 333f., 558), as it has done in the Germanic languages, and (iii) in Archaic Latin the subjunctive came to be used for realizable wishes and potential statements about the non-past (Handford 1947: 87–97). In fact, for Latin this diachronic trajectory offers a solution for the problem sketched by Handford (1947: 93) that this potential function, which nobody denies exists, cannot however trace back to the inherited subjunctive part of the Latin subjunctive, as it would stem from the optative part. Also, it seems that the oblique usages in subordinate clauses that developed later on in Ancient Greek also developed in some of the other early IE languages, viz. Gothic (Miller 2019: 459–461)

and Tocharian (Pinault 2008: 571). Finally, the replacements sometimes also develop “hypothetical” usages in some cases, it seems, since for example it has been argued that the past indicative developed such uses in Post-Classical Latin (Patard 2020).

## 6 Conclusions

To conclude, we have found that the counterfactual use of the optative, for which we possess traces in early IE languages that present a relatively archaic picture of the verbal system inherited from PIE, seems to have lost its counterfactual value in many early IE languages. The past-referring counterfactual function of the optative mood seems to be the oldest preserved function from PIE since it is only preserved in some languages, with possible origins in a combination of an epistemic modal suffix and a past temporal reference which was created through aspectual means (rather than tense). In many early IE languages, this past-referring counterfactual function had subsequently extended to non-past counterfactual usage and the inherited mood eventually lost its counterfactuality (moving into “hypothetical” present/future-referring usages). As a result of the changes predicted by the cross-linguistically and historically attested life cycle of counterfactuals, many early IE languages replaced the inherited counterfactual mood with innovative alternatives such as a past counterfactual indicative or past-like “conditional” mood. These replacements seem to have taken place in a relatively predictable order: the innovative replacements first referred only to past counterfactuality (as all new counterfactuals do) but over time also come to refer to non-past counterfactuality. As a result of that, first the inherited past-referring and later the non-past-referring counterfactual usages of the optative were filtered out, as for example happened in Archaic Greek. Moreover, while almost all IE languages eventually filtered out the inherited counterfactual mood strategy (with exceptions due to lack of mood syncretism, e.g. in German, or prescriptivist pressure, e.g. in English), some IE languages with innovative mood systems seem to have replaced the inherited counterfactual mood sooner: some retained the optative for the non-past non-counterfactual domain (e.g. Old Church Slavonic) and others got rid of the optative altogether (e.g. Hittite). Combining the evidence of the histories of counterfactual mood in the early IE languages discussed above, I would propose the following tentative diachronic typology of counterfactual mood in early IE languages.



**Tab. 1:** Diachronic typology of counterfactual mood in Indo-European languages

Language		1. Past CF		2. Non-Past CF		3. Hypothetical	
Greek	Archaic Greek	OPT	IND	OPT	IND		OPT
	Classical Greek		IND		IND		OPT
Indo-Aryan	Vedic Sanskrit		OPT		OPT		OPT
	Post-Vedic Sanskrit		COND		COND		OPT
Iranian	Avestan		OPT		OPT		OPT
	Old Persian		OPT		OPT		OPT
Germanic	Gothic		OPT		OPT		OPT
	Old English	SBJV	IND	SBJV	IND		SBJV
	Old High German		SBJV		SBJV		SBJV
Italic	Archaic Latin		SBJV		SBJV		SBJV
	Classical Latin	SBJV	IND	SBJV	IND		SBJV
	Post-Classical Latin	SBJV	IND	SBJV	IND	SBJV	IND
Celtic	Old Irish	SBJV	IND	SBJV	IND		SBJV
Tocharian	Tocharian A & B		COND		COND		OPT
Armenian	Classical Armenian		IND		IND		-
Anatolian	Hittite		IND		IND		-
Albanian	Albanian		IND		IND		-
Slavic	Old Church Slavonic		COND		COND		OPT

Table 1 should be read both from left to right as well as from top to bottom so as to observe the diachronic changes within the same language as well as across different periods of languages and language families. The table demonstrates the gradual replacements of the inherited counterfactual function of the optative replacements of roughly two types, viz. a conditional mood (=COND) or a past indicative (=IND)), as well as the lengthy co-existence of inherited and innovative strategies (e.g. the subjunctive (=SBJV) in diachronic varieties of Latin or the Germanic languages). Table 2 (p. 274) illustrates the related pathway from past counterfactuality into habituality and genericity in Greek, Indo-Aryan, Iranian, and Tocharian.

Admittedly, the diachronic typology proposed here is in some respects somewhat coarse-grained, because it is based on what we know about moods in early IE languages thus far. For example, space prevented me from fully discussing the role played by the role of tense and aspect in temporal reference extensions in languages other than Greek (e.g. the perfect optative in Vedic Sanskrit versus the imperfect indicative replacement of the Latin subjunctive). Also, the replacement of the inherited counterfactual mood by past indicatives, following typological predictions, took place together with modal markers in some languages, e.g. the past indicative with a modal particle in Greek and Hittite in main clauses, and the various past conditional forms (in e.g. Tocharian and Old Church Slavonic). In future research I will

**Tab. 2:** Diachronic pathways from past counterfactuality into past habituality and genericity

Language		1. Past CF		2. Past Habitual	3. Past Generic
Greek	Archaic Greek	OPT	IND	OPT	OPT
	Classical Greek		IND	IND	–
	Post-Classical Greek		IND	IND	IND
Indo-Aryan	Vedic Sanskrit		OPT	–	–
	Post-Vedic Sanskrit		COND	OPT	–
Iranian	Avestan		OPT	OPT	–
	Old Persian		OPT	OPT	–
Germanic	Gothic		OPT	–	–
	Old English	SBJV	IND	–	–
	Old High German		SBJV	–	–
Latin	Archaic Latin		SBJV	–	–
	Classical Latin	SBJV	IND	–	–
	Post-Classical Latin	SBJV	IND	–	–
Irish	Old Irish	SBJV	IND	–	–
Tocharian	Tocharian A & B		COND	OPT	–
Armenian	Classical Armenian		IND	–	–
Anatolian	Hittite		IND	–	–
Albanian	Albanian		IND	–	–
Slavic	Old Church Slavonic		COND	–	–

hopefully provide further insights into this understudied area of early IE languages and PIE.

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