

**Faculté de philosophie, arts et lettres**

# **The Optative in Proto-Indo-European**

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## *Preface*

The Proto-Indo-European Optative, as a research topic, holds a number of points of interest. To those with a fondness for the field of Indo-European comparative linguistics in particular, the endeavour of reconstructing a grammatical category in the Indo-European parent language has a fascination that is wholly its own. But the potential benefits of a deeper understanding of the history of this mood go further. The evolution of a gram of which the history and prehistory can be traced over many thousands of years, in what is without doubt the best studied language family on earth, provides an interesting testing ground for theoretical ideas on the diachrony of modality. And conversely, the insights provided by typological studies on the development of such modal categories have the potential to further elucidate the philological and reconstructive work that has already been done on the Optative in Proto-Indo-European.

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## 1. Introduction

A number of early Indo-European languages are characterised by the presence of an inflectional verbal category dedicated to the expression of modal functions such as *potentiality* and *wish* (cf. Smyth and Messing, 406–9). This category, referred to in the grammatical tradition of the oldest daughter languages as the *Optative*, has traditionally been reconstructed as part of the verbal morphology of the parent language, Proto-Indo-European (henceforth PIE). In recent decades, however, research has increasingly suggested that the grammatical categories of PIE are not so straightforwardly equivalent to those of the classical loci of its reconstruction (Greek and Sanskrit) (cf. Kim 2018b). Specifically, the oldest branch of Indo-European, Anatolian, is altogether destitute of an Optative or of any form that might plausibly be cognate to one (see section 2.3.). As a result, recent scholars have suggested that the Optative, along with several other core Indo-European grammatical categories, might have been a later development within the language family (cf. Lundquist and Yates 2017, 2147).

This thesis attempts to provide a synthesis of the current state of knowledge on the PIE Optative and its relevance to the interpretation of the internal history of PIE itself. This central research objective falls apart into three principal questions. Firstly, how reliably can we reconstruct an ancestral Optative, from both a formal and a functional point of view, based on those daughter languages which *do* have it? Secondly, what can the various methodologies of internal reconstruction tell us about the possible prehistory of the Indo-European Optative? And thirdly, where should the Optative be situated within the chronological development of PIE, both in the external sense – relative to the successive departure of individual Indo-European branches from the ancestral dialect union – and in the internal sense – relative to ongoing systemic developments within the PIE verb system itself?

The problematisation of the internal history of PIE is a relatively recent development within the field of Indo-European linguistics. With the publication of Brugmann's seminal *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen* at the turn of the twentieth century, the field appeared to have achieved a sense of closure, in that the fundamental grammatical structure of a PIE reconstructed mainly on the basis of Greek and Sanskrit seemed well established (Pinault 2013, 14). However, when the Hittite language was deciphered in 1917 by Hrozný, and identified as Indo-European, it soon became clear that its grammatical system differed in substantial ways from that of Greek and Sanskrit. It lacked such seemingly basic features of classically reconstructed Proto-Indo-European as the dual, the feminine gender, the subjunctive, and the distinctions between the aspect stems (Jasanoff 2017, 220–1). Although until the late 1960s researchers had a tendency to dismiss these Hittite particularities as internal losses within the Anatolian branch (Kim 2018b, 158), today a majority of researchers appear to accept that in many (though not all) cases, it was the non-Hittite languages which underwent far-reaching innovations (cf. Lundquist and Yates 2018, 2139).

Although these observations constitute a challenge for the classical reconstruction of PIE, from the more general perspective of a theoretically informed framework of linguistic diachrony they should not surprise. The unwillingness to assume a proto-language that makes fewer paradigmatic distinctions than its daughters is largely rooted in the traditional tendency to regard language evolution as a process of corruption or degeneration, or in the frequent (but erroneous) conceptualisation of language change in terms of a tendency for

languages to “simplify” over time (Kim 2018b, 168). Modern historical linguistics has fully rid itself of the notion that the evolution of grammatical categories can be expressed merely in terms of loss (whether by periphrasis or syncretism) of distinctions made in the past: such a schema creates more problems than it solves. Merely pushing categories into the remote past does not provide a scientific explanation for their existence, nor is it methodologically defensible to assume that the categories of reconstructed proto-languages monotonically accumulate as one goes back in time. The effect of such a reconstruction is to create a past linguistic landscape that differs in fundamental ways from the current linguistic landscape, an assumption which clearly violates the uniformitarian principle (Labov 1972, 101; Janda and Joseph 2003, 37). And more saliently, the idea that language evolution can be expressed in terms of loss alone contradicts a growing body of empirical research which indicates that inflectional grammatical categories do indeed arise from analytical precursors with great frequency (for verbal categories, cf. Haspelmath 1990, 2011; Haspelmath 1993, 148; Dickinson 2000, 419–420).

As a consequence, much recent research within Indo-European linguistics has been preoccupied with basic questions that are essentially chronological in nature, centring around the historical relationship between the relatively impoverished Anatolian branch and the wealth of morphological categories found in other Indo-European languages. In any given case, the dichotomy with which researchers are confronted is whether the Anatolian branch lost the category in question, or whether it developed within the non-Anatolian “core Indo-European” languages after the Anatolian branch had split off from the PIE dialect union. Did PIE have a feminine gender which the Anatolian branch lost, or did the feminine gender evolve after the Anatolian languages split off? Did PIE have a Subjunctive which disappeared in the Anatolian languages, or was this mood the result of a grammaticalisation process internal to the non-Anatolian languages? And what is the relationship between the core Indo-European perfect stem and the Anatolian *hi*-conjugation? Did the one evolve from the other, or do they both spring from a common parent category?

The origin of the Optative is a question of a similar nature, and as such is deeply rooted in the context of the development of the PIE verb system as a whole. This implies that a thorough examination of the history of the Indo-European Optative may not only further our understanding of the Optative, but can also provide insights into the evolution of other aspects of the verb system. To take a single and fairly obvious example, Jasanoff’s explanation for the origin of the sigmatic Aorist requires the Optative to have existed before the *-s-* was generalised outside of the Subjunctive and the third person Indicative, as there would otherwise be no ready explanation for the lack of a sigmatic Optative in Indo-Iranian (Jasanoff 2003, 185). Clearly, therefore, understanding the development of the Optative has repercussions elsewhere in the system.

Whether or not the Optative turns out to be a later development within PIE, providing a principled account of its functional and semantic development through time is a definite research desideratum. Although the reconstruction of the PIE Optative has, of course, been undertaken in the past (see section 4.1. for an overview), the reconstruction of morphological categories such as these tends to be strongly focused on the *formal* reconstruction of its exponents. The methodological reason for this is clear. Formal reconstruction can make use of the well-understood principle of phonological regularity which underlay the advances made by the Neogrammarians in the late nineteenth century, while no comparable methodological rigour can, as yet, be implemented in the case of semantic reconstruction

(Rankin 2003, 184–85, 196–97). There is no identifiable systematicity in semantic change (Fortson 2003, 660) and much historical work on such change has limited itself to identifying descriptive labels such as “melioration” or “pejoration”, labels which are inherently bidirectional and thus have little predictive value with regard to historical change. In some cases, in an attempt to make a virtue of necessity, this is elevated to the status of a methodological principle: in his seminal treatment of the *h<sub>2</sub>e*-conjugation theory of the PIE verb, for instance, Jasanoff explicitly forswears any commitment to a functional characterisation of his postulated ancestral PIE category (Jasanoff 2003, 59 f. 62).

Jasanoff’s methodological emphasis on refraining from speculation about functional categories on insufficient evidence is a doubtless valid and deserves to be emphasised. Nevertheless, where sufficient evidence *is* available, there are multiple advantages to a principled integration of our understanding of the formal evolution of categories into a broader functional framework of their use. To begin with, formal categories do not exist in a vacuum. They derive their meaning against the background of a language system, and that position has an impact on their subsequent evolution. This observation has the potential to be extremely relevant for our understanding of the Optative. In languages which lack a morphological reflex of the Optative category, for instance, the modal uses of the morphological Optative are not *absent*: they are subsumed by other categories or expressed through such analytic means as modal particles. No account of the evolution of the Indo-European optative can be complete if it is incapable of providing a convincing account of the origin (or replacement, as the case may be) of such alternative constructions, and this link can only be established in the first place through a rigorous functional examination of the PIE Optative itself.

Perhaps the most promising avenue of research offered by a functionally fine-grained approach, however, is the integration of modern theoretical work on the diachrony of modality into the field of Indo-European comparative linguistics. *Grammaticalisation theory* proposes that in general, morphemes move from *less* grammatical, or lexical, meanings to *more* grammatical, schematised meanings over time (Narrog and Heine 2011, 3). The most obvious instantiation of this process is the development of lexical items into dependent morphemes (as when postpositions develop into case markers) but more generally it may be taken as implying the existence of common routes of diachronic change, as our observations of what constitutes a “more grammatical” or a “less grammatical” meaning can be generalised across languages. It goes without saying that inference of unidirectionality, even in its weaker formulation in terms of general *trends* in diachronic change, is a powerful tool in inferring processes of historical change. In effect, it is the analogue of the comparative method as it is routinely applied for phonological developments: just as we assume that plosive *p* tends to fricativise to *f* and not vice versa, it is safe to assume that a dative case function, for instance, originates diachronically from an allative and not vice versa (Heine 2008, 467).

Since the seminal work of such scholars as Bybee et al. (1994) and van der Auwera and Plungian (1998), it has become possible to suggest common routes of diachrony in modal grammaticalisation as well. To the best of my knowledge these insights have not so far been applied to the history of PIE modal categories. Of course, it remains inevitable that the vicissitudes of millennia of change should place an absolute ceiling on how much we can know about the distant prehistory of the language system on any level, and in that regard one must resist the temptation to indulge in speculation. But it seems difficult to deny that making use of insights into the typology of semantic change can *at least* push the boundaries of

knowledge further back than the brute application of formal reconstruction alone. Besides, the value of an informed diachrony of modality goes beyond internal reconstruction: it is an indispensable theoretical background to *any* informed discussion of the appearance and diachronic evolution even of well-established categories of which the prehistory can no longer be inferred.

The body of this thesis is organised into four parts. Parts one and two focus on the essential preliminaries of all comparative endeavour – delineating the *comparanda* – in turn considering the exponents of the Indo-European Optative and their functions in the attested daughter languages. In the third part, attention is given to the instantiation of the Optative in Proto-Indo-European itself, and to the plausibility of some of the ideas that have been suggested on the possible prehistory of this category. The final part addresses the question of how the Optative can be situated within the early chronology of the IE language family, based on a number of external and internal criteria, one of which – the development of the sigmatic aorist – was already alluded to above.

A final note on terminology is in order here. I follow Bybee et al. (1994, 2–3) in using the term “gram” to refer to language-specific form-function pairings such as *Vedic Optative* or *Latin Imperative*, and “gram type” for any cross-linguistic generalisation of frequently recurring form-function pairings, such as *optative* or *irrealis*. In addition, I follow the typological convention of capitalising language-specific grams (thus *Greek Optative*) and grams within the same language family, when they are identical by inheritance (thus *Indo-European Optative*), but not cross-linguistic gram types or semantic categories (thus *performative optative*) (De Haan 2006, 61; Haspelmath 2010, 674). This usage emphasises an important difference in ontological status between these two levels of description. Language-specific categories are demonstrably real, in that they correspond to a categorisation in the speaker’s mental grammar of which the speaker himself has some degree of awareness, whereas any postulated gram type or cross-linguistic generalisation is simply a heuristic tool for typological study.<sup>1</sup>

On a more specific level, I use the term “optative” in this introduction and elsewhere primarily out of deference to the established descriptive terminology of the field: this choice of terminology entails no theoretical assumptions on the relationship between the Indo-European Optative and the “optative” gram type as defined within modern typology (which may itself be a conflation of two distinct gram types: for a more detailed discussion see section 3.3.). By “optative” I always mean the gram type instantiated by the Indo-European Optative (a combination of wish, potentiality and other modal nuances), *not* the gram types referred to by that term in modern typology, unless explicitly specified. The terminological difficulty is further exacerbated by the fact that direct functional or formal reflexes of the PIE Optative often go by different names in the descriptive traditions of the daughter branches. Latin has a Subjunctive with optative functions, and the Slavic Imperative continues formal reflexes of the PIE Optative. To preserve a measure of terminological hygiene I do not propose to introduce new terms to regularise this diversity: I will instead use the minimally innovative expression “Optative reflex gram” to refer to any gram which, like the Latin Subjunctive or the Slavic Imperative, constitutes a formal or functional continuation of the PIE Optative.

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<sup>1</sup> Note that I do not capitalise “optative” in the context of specific paradigms (e.g. “root aorist optative” or “sigmatic optatives”) when discussing the formal properties of the Indo-European Optative reflexes.

## *2. The exponents of the Indo-European optative*

This chapter focuses on a presentation of the formal comparanda for the reconstruction of the PIE Optative. After a brief overview of the PIE verb, it systematically reviews every branch of the Indo-European language family that is relevant for the reconstruction of the PIE Optative, in order of first attestation. In each case, the reflexes of the Optative are identified and an attempt is made to distinguish preserved archaic forms from secondary forms which are clearly the result of the operation of analogy. In section 4., the insights achieved in this chapter will form the basis for the reconstruction of the ancestral gram.

### *2.1. The methodology of formal comparison*

The focus of this chapter is on that portion of the reconstructive endeavour which is conceptually preliminary to the task of reconstruction itself: the identification of the relevant items from which the comparison may proceed (see section 3.2.). As noted in the introduction, this synchronic analysis is essentially situated on two levels. The Optative as a formal category of the inflected Indo-European verb (the “exponents” of the PIE Optative) is the subject of this chapter; the Optative as the set of modal functions communicated by this category (the “functions” of the PIE Optative) is the subject of the next.

The analysis of the formal comparanda itself falls into a number of logically consecutive steps. Firstly, it involves the identification of the relevant forms and paradigms (Optative reflex grams) within the daughter languages and the postulation of hypotheses on their possible past history, based on what is known about the regular phonological and morphological developments of the daughter languages concerned. In some cases, even the simple identification of the correct reflex is problematic: a case in point is the Italic branch, where both of the major productive Subjunctive paradigms (the *ā*-subjunctive and the *ē*-subjunctive) have been thought to derive from an ancestral Optative, but are susceptible to other explanations as well. Once the reflexes of the Optative have been correctly identified, the next stage of inquiry involves the elimination of those forms and paradigms which have clearly been subject to secondary renewal and are thus irrelevant for the purposes of reconstruction. The most prominent manifestation of this renewal is the elimination of unproductive apophonic variation through analogy. Naturally, as far as this chapter is concerned, the focus lies only on those forms which can be identified as secondary for reasons internal to the language branch under consideration. In many cases it is likely that a branch has innovated in such a way that the innovative forms can only be recognised as secondary through comparison with other branches: that will be the subject of chapter 4 and will not detain us here.

Maintaining this clear distinction between the results of internal reconstruction based on individual language branches and the results of external comparison between different language branches will be one of the guiding methodological principles of this chapter. This will allow the evidence to be approached in a way that is minimally skewed by prior assumptions on the nature of the Indo-European verb itself. Most research in the field does not observe this ordering, mainly out of expository convenience – the directionality of the actual changes themselves runs, after all, from PIE to the daughter branches, not vice versa. Nevertheless, linguistic reconstruction is inherently a bottom-up method, not a top-down method, and a rigorously evidence-based reconstruction should reflect this. Tracking the

operation of analogical processes may serve as a salient example of the methodological dangers involved: once a historical linguist starts postulating analogical remodellings – which is inevitable, as such remodellings are empirically very common (Hock 2003, 441) – it is easy to lose sight of more parsimonious solutions, as potentially relevant data can conveniently be dismissed as secondary. Analysing every branch separately allows one to be as transparent as possible about the analogical changes that need to be postulated.

Strictly speaking, it should be axiomatic that no fully informed reconstruction can proceed without taking into account the complete range of attested daughter languages. It is not methodologically defensible, for instance, to favour certain language groups *a priori* based on the fact that they are known to be conservative in other ways (in their nominal morphology, for instance, or their phonology): there is no necessary reason why conservatism in one part of the language system could not go hand in hand with innovations in another. In addition, the fact that the attestation of one language branch is chronologically anterior to that of another is strictly speaking primarily a practical rather than a theoretical observation: it is likely to be harder to identify the relevant reflexes in a more recently attested branch, because more change will have had time to take place, but it is still quite possible that the branch in question preserves evidence that all other branches have lost. Nevertheless, considering the prohibitively large number of attested Indo-European languages, the approach chosen in this chapter has been to review the branches in order of first attestation – to avoid introducing prior bias regarding the conservatism or phylogenetic position of the branches in question – while keeping the focus on the oldest attested members of each branch.

## 2.2. *The Indo-European verb*

In order to frame the analysis of the Indo-European Optative reflex grams in this chapter against the broader context of the prehistoric Indo-European verb system, this section briefly presents an outline of the current consensus reconstruction of the PIE verb. In order to avoid taking sides on controversial issues regarding the relationship between the Anatolian and Tocharian verb systems and those of the other branches of Indo-European, the focus here lies explicitly on the verb system as it is preserved in the Indo-European branches other than Anatolian (where relevant excluding Tocharian also), sometimes referred to as “core Indo-European”, or, in the terminology of Lundquist and Yates (2017, 2080) “Proto-Nuclear-Indo-European” (henceforth PNIE). Where relevant for the reconstruction of the Optative, hypotheses on the nature of the “Indo-Hittite” PIE verb proper will be given further consideration in chapter 5.

Every regular PIE verb formed three aspect stems, referred to as the *present stem*, the *aorist stem* and the *perfect stem* (Lundquist and Yates 2018, 2138). These verb stems encoded grammatical aspect, or the speaker’s perspective on the “internal temporal constituency” of the situation at hand (in the terminology of Comrie [1976, 3]). Thus, to refer to a situation as ongoing, the present stem was used; to refer to a situation as a single whole, the aorist stem was used; to refer to a situation as resulting from an event or action in the past, the perfect stem was used. Morphologically, either the aorist stem or the present stem was equivalent to the verb root, while the other aspect stems were derived from this root through a number of productive morphosyntactic processes, including suffixation, infixation, reduplication and derivational apophony. It is thought that lexically telic verbs tended to form root aorists and

derived presents, while lexically atelic verbs formed root presents and derived aorists, although there are exceptions to this pattern. The perfect stem was always derived, and almost invariably by the same morphological process – *e*-reduplication and *o*-grade vocalism of the root in singular forms (Fortson 2010, 103).

Personal endings were added to the aspect stems to signal the voice of the verb (active or middle), as well as the person (first, second or third person) and the number (singular, dual or plural) of its grammatical subject. The middle voice is thought to have expressed what Lundquist and Yates (2017, 2142–3) term “subject affectedness”, presenting the action referred to by the verb as in some way concerning or benefitting its grammatical subject. Thus the middle is often used to express such categories as reflexivity, reciprocity or self-benefaction. PNIE did not have a separate passive voice, although the middle seems to have been used with passive functions. A number of stems, known as “thematic stems” added an intervening vowel *e/o* between the stem and the personal endings: these stems became hugely productive in many of the daughter branches (Clackson 2007, 124; Fortson 2010, 97).

The active and the middle personal endings came in two sets each, known as *primary endings* and *secondary endings*, which indicated non-past and past tense, respectively (Lundquist and Yates 2018, 2140).<sup>2</sup> The primary endings, despite their name, were in fact formed on the basis of the secondary endings (rather than vice versa) through the addition of a grammaticalised deictic particle, *-i* for the active endings and *-r* for the middle endings (Fortson 2010, 93–4). The aorist aspect stem did not form primary endings, presumably because non-past events were felt to be inherently “ongoing” and the combination of primary endings with the aorist aspect stem would therefore have been paradoxical. The perfect stem did use primary endings, but its endings were formally anomalous and do not seem to bear any historical relationship with the regular active personal endings. This anomaly is limited to the active primary endings however; the rest of the perfect paradigm, including the secondary active endings and all middle endings, appear to have been regular (Jasanoff 2003, 34, 44–45).

Besides a primary and secondary indicative, each of the aspect stems formed three inflectional modal categories: an Imperative, used for the expression of directives, a Subjunctive found with a variety of uses, including the prospective and perhaps also simple futurity, and an Optative, of which the function will be considered in more detail in section 3.3., but which is usually thought to have encompassed such notions as *potentiality* and *wish* (Fortson 2010, 90; Lundquist and Yates 2018, 2147). The Subjunctive took primary endings and was formally characterised by the addition of a theme vowel *\*-e/-o-* to the aspect stem: in the case of thematic verbs, which already had a theme vowel, the subjunctive suffix surfaces as a lengthened theme vowel *\*-ē/-ō-* instead. The Optative mood was signalled by the addition of an apophonic modal suffix, of which the reconstruction will be undertaken in section 4.1. The Imperative was characterised by the use of a distinctive set of endings (Lundquist and Yates 2018, 2145–47). In addition, PNIE formed active and middle participles on each of the aspect stems, and probably also infinitives, although the PNIE form of the latter cannot be reconstructed due to the great formal diversity of the infinitives attested in the daughter branches (Lundquist and Yates 2017, 2168–2170).

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<sup>2</sup> This appears to have been the synchronic situation in PIE. Etymologically, the two sets of endings rather indicate “present” and “non-present”, since the deictic particle with which the primary endings are formed refers to the “here and now” (Fortson 2010, 93).

**Figure 1. The PNIE verb**

	present stem		aorist stem		perfect stem	
	active	middle	active	middle	active	middle
<i>1<sup>ary</sup></i>	present stem + 1 <sup>ary</sup> active endings	present stem + 1 <sup>ary</sup> middle endings			perfect stem + perfect endings	perfect stem + 1 <sup>ary</sup> middle endings
<i>2<sup>ary</sup></i>	present stem + 2 <sup>ary</sup> active endings	present stem + 2 <sup>ary</sup> middle endings	aorist stem + 2 <sup>ary</sup> active endings	aorist stem + 2 <sup>ary</sup> middle endings	perfect stem + 2 <sup>ary</sup> active endings	perfect stem + 2 <sup>ary</sup> middle endings
<i>subj.</i>	present stem + *-e/o- + 1 <sup>ary</sup> active endings (?)	present stem + *-e/o- + 1 <sup>ary</sup> middle endings (?)	aorist stem + *-e/o- + 1 <sup>ary</sup> active endings (?)	aorist stem + *-e/o- + 1 <sup>ary</sup> middle endings (?)	perfect stem + *-e/o- + 1 <sup>ary</sup> active endings (?)	perfect stem + *-e/o- + 1 <sup>ary</sup> middle endings (?)
<i>opt.</i>	present stem + *-yeh <sub>1</sub> -/ih <sub>1</sub> - + 2 <sup>ary</sup> active endings	present stem + *-yeh <sub>1</sub> -/ih <sub>1</sub> - + 2 <sup>ary</sup> middle endings	aorist stem + *-yeh <sub>1</sub> -/ih <sub>1</sub> - + 2 <sup>ary</sup> active endings	aorist stem + *-yeh <sub>1</sub> -/ih <sub>1</sub> - + 2 <sup>ary</sup> middle endings	perfect stem + *-yeh <sub>1</sub> -/ih <sub>1</sub> - + 2 <sup>ary</sup> active endings	perfect stem + *-yeh <sub>1</sub> -/ih <sub>1</sub> - + 2 <sup>ary</sup> middle endings
<i>imp.</i>	present stem + active imperative endings	present stem + middle imperative endings	aorist stem + active imperative endings	aorist stem + middle imperative endings	perfect stem + active imperative endings	perfect stem + middle imperative endings
<i>part.</i>	present stem + -ont-/nt- + nominal endings	present stem + -mh <sub>1</sub> no- + nominal endings	aorist stem + -ont-/nt- + nominal endings	aorist stem + -mh <sub>1</sub> no- + nominal endings	perfect stem + -wos-/us- + nominal endings	perfect stem + -mh <sub>1</sub> no- + nominal endings

**Figure 2. The PNIE verb endings**

	2 <sup>ary</sup> active	1 <sup>ary</sup> active	1 <sup>ary</sup> middle	2 <sup>ary</sup> middle	Perfect	Imperative
1 <sup>st</sup> sg.	*-m	*-m-i	*-h <sub>2</sub> e	*-h <sub>2</sub> e-r	*-h <sub>2</sub> e	/
2 <sup>nd</sup> sg.	*-s	*-s-i	*-th <sub>2</sub> e	*-th <sub>2</sub> e-r	*-th <sub>2</sub> e	*-∅, *-d <sup>hi</sup>
3 <sup>rd</sup> sg.	*-t	*-t-i	*-o, *-to	*-o-r, *-to-r	*-e, *s(t)	*-t-u, -t-ōd
1 <sup>st</sup> d.		*-we				
2 <sup>nd</sup> d.		*-to-				*-tom
3 <sup>rd</sup> d.	*-teh <sub>2</sub> m					
1 <sup>st</sup> pl.	*-me-	*-me-	*-med <sup>h</sup> h <sub>2</sub>	*-med <sup>h</sup> h <sub>2</sub>	*-me-	/
2 <sup>nd</sup> pl.	*-te-	*-te-	*-d <sup>h</sup> h <sub>2</sub> we	*-d <sup>h</sup> h <sub>2</sub> we	*-te	*-te
3 <sup>rd</sup> pl.	*-(e)nt	*-(e)nt-i	*-ro, *-nto	*-ro-r, *-nto-r	*-(e)nti	*-nt-u, *-nt-ōd

The overall structure of the PNIE verb is summarised in figure 1. The reconstructed verb endings are presented in figure 2, based on Lundquist and Yates (2018, 2145–57). Note that the reconstruction of the personal endings is not always straightforward, particularly in the case of the dual. Empty slots do not signify the absence of a PNIE category: they merely indicate that the attested reflexes are too diverse, or too scant, to allow for a secure reconstruction.

### 2.3. Anatolian

The Optative in the Anatolian branch is conspicuous by its absence. Despite its main representative, Hittite, being attested as early as the sixteenth or seventeenth century B.C.E, depending on whether one adheres to the middle or short chronology of ancient Anatolia (Zinko 2017, 240), this language attests no Optative reflexes at all (Pinault 2015, 151). Even the remains of the PIE Subjunctive in Hittite are limited to a single isolated *si*-imperative, of which the Subjunctive origin is disputed (Jasanoff 2012; Oettinger 2017, 264–65; Lundquist and Yates 2018, 2146). An analogous situation holds in related Anatolian languages, which are mostly minor languages of later attestation, such as Luwian and Pisidian (Zinko 2017).

Naturally, the absence of a dedicated optative inflectional category does not mean that speakers of Anatolian languages lacked the means to express the modal nuances covered by the Optative in other Indo-European branches (Zorman 2013, 130). The Anatolian modal system is best understood for Hittite, and most research has consequently focused on this language (cf. Luraghi 1998, 184). Some of the categories which correspond to the inflectional moods in other IE branches are expressed in Hittite by the use of the particle *man* with the indicative (Hoffmann 1975, 314–15). The particle *man* has the following uses (Hoffner and Melchert 2008, 314–16; Güterbock and Hoffner 1989, 139–43).

- The expression of *wish*, either of the speaker (the *optative* function) or of the subject of the clause (the *desiderative* function).
- The expression of *potentiality*. A tense distinction is made between potentiality in the present or future (using the present indicative) and potentiality in the past (using the preterite indicative). Hypothetical future events that are deemed improbable may be expressed with the preterite also.
- The expression of *irrealis*, or contrary-to-fact modality.

- Both potentiality and irrealis may also be expressed in conditional clauses.

These categories correspond reasonably well to the use of the Optative and Subjunctive in Greek or Sanskrit (see section 3.2. for an in-depth overview). Naturally, this raises an important question of directionality. Is the use of modal particles archaic in comparison to the core Indo-European Optative, or is it an innovation within Anatolian? As was noted in the introduction, there can be no *general* response to this question – inflectional categories can be gained as well as lost – and as a result, the probable directionality of language change in this particular instance must be established language-internally.

The etymology of the modal particle *man* is uncertain. The principal hypotheses for its origin propose that it bears some relationship with the conjunction *mān* (“when, if” [Zorman 2017, 266]), with which it may stand in an apophonic relationship (Kloekhorst 2007, 638). Such a diachronic origin is cross-linguistically plausible, as grammatical operators often seem to originate from the spatial or temporal domain (Heine and Kuteva 2004, 293). Another potential clue to the origin of the modal *man* is the existence of a very similar particle *man* in Akkadian, which is not only formally identical to its Hittite counterpart, but shows a degree of functional affinity also, as it used to express such modal notions as potential and irrealis (von Soden 1995, 254).

Zorman (2016, 2017) argues that these options can be combined. In her view the Anatolian modal particle *man* is the result of a grammaticalisation of the conjunction *mān*, along the pathway described in the preceding paragraph, which was sped up through influence of the coincidentally homonymous Akkadian modal.<sup>3</sup> This implies that it was not the Akkadian lexeme itself which was borrowed, but a syntactic template (the use of a modal particle to express such notions as “potentiality”), a phenomenon referred to as “contact-induced grammaticalisation” (Robbeets and Cuyckens 2013, 7). Recent research emphasises that in situations of sufficiently heavy contact it is impossible to confidently exclude borrowing at any level of linguistic structure. In particular, the phenomenon known as “shift-induced interference”, where second language speakers of the target language introduce features from their own language into the target language through imperfect learning, is thought to affect syntax (and phonology) *before* the lexicon, unlike regular borrowing (Thomason 2003, 691–93, 695). Zorman plausibly invokes this mechanism to explain the Hittite particle *man* (Zorman 2016, 385–86).

In theory, one could argue that the conjunction *mān* grammaticalised independently of the Akkadian modal particle, and that their resemblance is purely coincidental. Zorman’s hypothesis of a grammaticalisation process sped up through contact is motivated at least in part by the observation that the modal particle in question is limited to Hittite. In Zorman’s view, this implies that the grammaticalisation process occurred after Hittite split off from the other Anatolian languages, which leaves little time for its development in comparison to, say, the grammaticalisation of the modal auxiliary *would* over a period of more than a thousand years in English (Zorman 2017, 270). However, I am not confident that the data warrant this conclusion. Although it is true that the cognate *man* in a language such as Luwian appears to serve only as a conjunction (Payne 2004, 147), one must bear in mind that Luwian is much

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<sup>3</sup> Cross-linguistic parallels for this process can be cited without difficulty. For instance, Robbeets and Cuyckens (2013, 9) mention the Baoan collective suffix *-la*, which grammaticalised to a plural marker due to its resemblance with a Turkic plural marker *-lar*.

less well attested than Hittite in the first place. Unless it is clear how volition or potentiality would have been expressed otherwise, any conclusions on this subject are premature.

In fact, even if it is true that Luwian had no dedicated optative-like gram of any kind, then there are in theory three equally thinkable options – it lost an older inflected Optative, it lost an older modal particle, or it never had any such gram to begin with. If the second option is correct, there is no reason to think that the lost particle was not *man*. The continued existence of the particle as a conjunction is not a valid counter-argument: even if the conjunctival use was the original source of the grammaticalisation path, it is quite possible for a more grammaticalised meaning to fall into disuse while its diachronic source persists as a healthy category (Haspelmath 2004, 33–35).<sup>4</sup> At the present stage, therefore, the Anatolian data must return a *non liquet*.

The relationship between the Hittite particle *man* and the Optative is difficult to establish, but there are a number of potential clues. For instance, in functional terms the particle *man* does appear to agree more closely with the Indo-European optative than it does with Akkadian *man*. If this inference is correct, one might explain it by invoking contacts with the Greek language, for which there seems to be some evidence, at least in the late Bronze Age (Hajnal 2018, 2038). But a different interpretation is also possible. It has often been noted that more often than not, grammaticalisation creates new exponents for preexisting grammatical categories, rather than producing new grammatical categories *de novo* (Heath 1998, 733). If this is the case, the specific constellation of functions taken by the Hittite *man* could reflect, as it were, a shadow of a putative PIE Optative. Alternatively, one could argue along similar lines that the core Indo-European Optative replaces an ancestral PIE modal particle, and that the use of *man* in Hittite is simply a lexical substitution from Akkadian for whatever that inherited particle was. However, these possibilities must necessarily remain speculative.

#### 2.4. Indo-Iranian

Aside from the Anatolian branch, which, as shown in the previous section, attests no Optative, the two Indo-European language branches with the deepest attested history are the Indo-Aryan and the Iranian branches. Due to a number of common innovations – such as the identical vocalisation of PIE laryngeals (Lubotsky 2018, 1886) – these branches are known to derive from a unique common ancestor (Proto-Indo-Iranian) and will therefore be treated together. The earliest attested languages of the Indo-Aryan and Iranian branches are Vedic Sanskrit (Cardona 2017, 310) and Gathic Avestan (Beekes 1988, xxi; Skjærvø 2017, 473), respectively. Most of the relevant data for the reconstruction of the Proto-Indo-Iranian Optative stems from these languages, and this section will focus strongly on them and their immediate successors.

The Vedic Sanskrit athematic optative of the root *present* is one of the few optative paradigms in the Indo-European languages of which the historical interpretation is wholly straightforward. A form such as *dviṣ-yá-t* should clearly be analysed as a reflex of a PIE optative *\*dwiṣ-yéh<sub>1</sub>-t* with the zero grade of the root *\*dweys* “to hate” (Rix 2001, 131), and secondary endings. The modal suffix *-yá-* reflects a full-grade preform *\*-yéh<sub>1</sub>-*, the vowel

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<sup>4</sup> An example cited by Haspelmath is the coincidentally homonymous English *man*, which has lost its more strongly grammaticalised Old English function as an indefinite pronoun and is now only used in its original, lexical sense.

undergoing regular tautosyllabic lengthening when the laryngeal disappears (Kobayashi 2017, 327): following a common (though not invariably regular) pattern of PIE morphophonology the appearance of the full grade in the modal suffix coincides with the accent (Lundquist and Yates 2018, 2133). The middle equivalent of this optative form, *dviṣ-ī-tá*, derives from the zero-grade modal suffix *\*-ih<sub>1</sub>-*, which is not accented. The attested apophonic patterns differ from those of the other branches (cf. section 2.3., 2.4.) in that the “strong” full grade is generalised throughout the active paradigm, with the “weak” zero grade being retained only in the middle. However, this same development is found elsewhere in Sanskrit – as for instance in the sigmatic aorist indicative and injunctive, which both similarly extend the domain of the strong ablaut grade to the plural – and is thus safely regarded as secondary (Kümmel 2018, 1906). The fact that the stem of the present optative takes the invariant zero grade is most clearly seen in the forms of the verb “to be” – *syām*, *syās*, *syāt* etc. from the root *\*h<sub>1</sub>es* (Rix 2001, 241–42).

The regular optative formations found in root aorists are essentially equivalent to those found for the present stem (Jasanoff 1991, 102). Thus a root optative form such as *śru-* – from the PIE root *\*k<sub>1</sub>lew-* “to hear” (Rix 2001, 334–35) – gives a first person singular optative *śrūyāḥ*. As in the present stem, the zero grade of the root is generally encountered, as is the same pattern of apophonic variation in the modal suffix, with the strong forms limited to the active and the weak forms to the middle. Unlike the present optative, however, the neat picture presented by the regular aorist optative is disturbed by a number of exceptions, some of which have been regarded as diagnostic of the formal properties of the PIE ancestor and thus deserve an in-depth analysis here.

The first group of exceptional aorist optative forms are the so-called long vowel root aorists, reflexes of Proto-Indo-European roots ending in a laryngeal, such as *\*deh<sub>3</sub>*, “to give” (Rix 2001, 105–6) or *\*peh<sub>3</sub>* “to drink” (Rix 2001, 462–63). These form optatives with an apparent modal suffix *-ēyā-*, of which the origin is unclear. An example is the root aorist *dhā-*, “to put”, from PIE *\*d<sup>h</sup>eh<sub>1</sub>* (Rix 2001, 136–37) with an optative first person singular *dhēyām* and plural *dhēyāma*. It must be emphasised that these optatives are limited in their distribution: the forms in question are often *hapax legomena*, and even the frequently attested *sthēyāma* occurs only in a fixed collocation (Catt 2016, 1068).

Significantly, forms such as *dhēyām* occasionally scanned as if they were trisyllabic, which is often indicative of an archaic hiatus caused by the disappearance of an intervocalic laryngeal (Catt 2016, 1067). For this reason, Jasanoff argues that the forms in question should be analysed as optatives formed from a full grade (rather than zero grade) aorist root (Jasanoff 1991, 102–3). Assuming a zero grade modal suffix in the plural, such optatives would, by regular phonological development, have given rise to forms such as *\*d<sup>h</sup>eh<sub>1</sub>-ih<sub>1</sub>-me > \*dhaH-iH-ma > \*dhaīma*. To derive the attested forms from this ancestral paradigm, Jasanoff has to assume two further analogical levellings: first, the modal suffix *-ī-* was extended to the singular, giving such forms as *\*dhaīyām*, with a concatenated optative modal suffix *-iyā-* (as if from †*-ih<sub>1</sub>-yeh<sub>1</sub>-*) which was subsequently extended back to the plural. This resulted in a regularised paradigm of the form *\*dhaīyā-*, which then regularly monophthongised to *dhēyā-*. The presence of a prehistoric laryngeal hiatus underlying the monophthongised *ē* would

**Figure 3. A possible explanation for long vowel aorist optatives in Sanskrit**

	PIE	1	2	3	Ved. Skt.
1 <sup>sg</sup>	<u>d<sup>h</sup>eh<sub>1</sub>-yéh<sub>1</sub>-m</u>	<u>dhā-yā-m</u>	<u><b>dhaī</b>-yā-m</u>	<u>dhaī-yā-m</u>	<u>dhēyá-m</u>
2 <sup>sg</sup>	<u>d<sup>h</sup>eh<sub>1</sub>-yéh<sub>1</sub>-s</u>	<u>dhā-yā-s</u>	<u><b>dhaī</b>-yā-s</u>	<u>dhaī-yā-s</u>	<u>dhēyá-s</u>
3 <sup>sg</sup>	<u>d<sup>h</sup>eh<sub>1</sub>-yéh<sub>1</sub>-t</u>	<u>dhā-yā-t</u>	<u><b>dhaī</b>-yā-t</u>	<u>dhaī-yā-t</u>	<u>dhēyá-t</u>
1 <sup>pl</sup>	<u>d<sup>h</sup>eh<sub>1</sub>-ih<sub>1</sub>-mé</u>	<u>dha-ī-ma</u>	<u>dhaī-ma</u>	<u>dhaī-<b>yā</b>-ma</u>	<u>dhēyá-ma</u>
2 <sup>pl</sup>	<u>d<sup>h</sup>eh<sub>1</sub>-ih<sub>1</sub>-té</u>	<u>dha-ī-ta</u>	<u>dhaī-ta</u>	<u>dhaī-<b>yā</b>-ta</u>	<u>dhēyá-ta</u>
3 <sup>pl</sup>	<u>d<sup>h</sup>eh<sub>1</sub>-ih<sub>1</sub>-ént</u>	<u>dha-ī-yur</u>	<u>dhaī-yur</u>	<u>dhaī-<b>yā</b>-yur</u>	<u>dhēyá-yur</u>

1. The regular pre-Sanskrit phonological reflexes of the PIE forms
2. The analogical extension of *aī* to the singular.
3. The analogical extension of *yā* to the plural.

explain the trisyllabic scansion. The analogical developments a theory of this kind minimally needs to assume are summarised in figure 3.<sup>5</sup>

Jasanoff's theory requires successive bouts of analogical levelling, both from the plural to the singular and vice versa, and is therefore vulnerable to criticisms on the grounds of parsimony. In addition, Pinault questions it on the basis that it inadequately accounts for the trisyllabic scansion of the forms. In the first place, the trisyllabic scansion is in fact rare, so rare that its comparative absence is arguably a stronger argument against the presence of a laryngeal hiatus than its erratic occurrence is an argument for it. Only two attested forms require it and they are both first person singular (Catt 2016, 1069). More importantly, where the trisyllabic scansion is required, it is of the pattern  $\sim \sim \sim$ , which a presumed preform such as *dhāiyām* ( $\sim \sim \sim$ ) cannot explain (Pinault 2015, 175).

Alternative explanations for the trisyllabic scansion have been suggested. One class of solutions sees the final syllable (rather than the initial syllable) as the locus of the distraction, either as a consequence of the presence of a laryngeal (*\*dhēyāHām*), or due to the influence of the distracted genitive plural in *-ām*. It is also possible to postulate purely metric solutions which would be of no linguistic relevance at all. Catt points out that one of the relevant forms follows a trisyllabic optative in the same position in the previous line, suggesting that the author "exercised poetic licence in scanning [the two optatives] in a similar fashion", while the other can plausibly be interpreted as bisyllabic if the line in which it occurs is scanned as heptasyllabic (Catt 2016, 26–28). Naturally, the existence of roots of this shape still requires an explanation in itself, even if the trisyllabic scansion is illusory. However, the probable absence of distraction must duly be taken in account when assessing any theory that assumes its presence.

A second class of problematic forms are optatives such as *gaméma*. These are athematic root aorist optatives displaying apparent contamination from the thematic optative, limited to the first person – usually the first person plural, although the singular is also found (Pinault 2015, 160). The aberrant forms coexist with regular, athematic forms such as *gamyāma*. If these forms are indeed cases of thematic contamination, the template for their formation might

<sup>5</sup> Note that Jasanoff (1991) in fact assumes the singular forms and the third person plural took a zero-grade root (see section 4.1.).

have been a verb such as *vocéma*, of which the subjunctive *vócāma* was equivalent to the athematic subjunctive *gámāma*. The contamination can, then, be restated as a four-term analogy of the form *vócāma* : *vocéma* :: *gámāma* : *x*, where *x* is solved as *gaméma*. In addition, the first person singular forms *gaméma* are metrically equivalent to their subjunctive counterparts (in this case, *gamāma*), which might suggest an origin in poetic use (Pinault 2015, 161).

Pinault (2015) rejects this explanation and opts instead to regard this construction as the univerbation of a dative root noun and an auxiliary verb (a hypothesis which will be discussed in section 4.3.). His arguments against thematic contamination, however, are somewhat inconclusive. The first, based on the fact that *gaméma* is accented on the modal suffix whereas the thematic conjugation should carry the accent on the root, is, as he himself notes, trivially disposed of by assuming forms such as *gaméma* underwent analogy from the rest of its (regularly athematic) paradigm (Pinault 2015, 161). Perhaps the most serious general criticism Pinault adduces against invoking contamination in this *ad hoc* manner is the fact that contamination inadequately explains the distribution of the attested forms. But the mere fact of a distribution limited to the first person does not, at the current stage of research at least, meet the burden of proof for the postulation of a new morphological category: such erratic syncretisms do appear to occur in the course of natural language evolution, as evidenced, for instance, by the possible contamination of the present indicative of the Latin verb “to be” by a single secondary ending (thus Proto-Italic *\*esom* instead of expected *\*esm̄*) (Joseph and Wallace 1987, 689) or the intrusion of Indicative forms into the Old Church Slavonic Imperative paradigm (see figure 8 in section 2.6.). In addition, the explanation from metric equivalence does explain the distribution reasonably well: Pinault’s objection that the metric equivalence is at least partly illusory, on the grounds that the first person singular is probably analogical with the first person plural form and therefore late, weakens the strength of this explanation but does not nullify it.

Pinault also draws attention to one particular form, *bhujēmā*, which is unique in that it frequently cooccurs with the prohibitive negative particle *má* (Pinault 2015, 162–65) rather than the expected *ná* (Tichy 2006, 73). Pinault regards this form as a revealing archaism, and, in consideration of the fact that the particle *má* is generally restricted to the injunctive, uses it as an argument for his view that the form preserves evidence for the univerbation of an injunctive with a nominal form. Further consideration of Pinault’s hypothesis will be left until section 4.3. It should be noted, however, that there are a few examples of the Precative (a category derived from the sigmatic aorist optative, which will be considered below) occurring with *má* as well (Whitney 1889, 218).

Bammesberger (1982) does not accept the analogical explanation for the *gaméma*-optatives either, and instead derives the ending from a regular phonological development in laryngeal-final roots such as PIE *\*senh<sub>2</sub>* “to obtain” (Rix 2001, 533–34). A root of the shape *CṅH-yeh<sub>1</sub>-/CṅH-ih<sub>1</sub>-* would have given the reflexes *Cāyā-/Cē-*, or, in the particular case of *\*senh<sub>2</sub>*, *sāyā-/sē-*. The latter ending coincidentally resembled the thematic ending and thus gave rise to apparently thematic endings for athematic verbs, rebuilt on the full grade root *san-*. As figure 4 shows, various successive analogical developments need to be postulated to make this scenario plausible: the full grade root needs to spread secondarily to the optative

**Figure 4. Analogical developments assumed by Bammesberger (1982)**

	PIE	1	2	Ved. Skt.
1 <sup>sg</sup>	<u>sñh<sub>2</sub>-yéh<sub>1</sub>-m</u>	<u>sā-yā-m</u>	<u>san-yā-m</u>	<u>gam-é-yam</u>
2 <sup>sg</sup>	<u>sñh<sub>2</sub>-yéh<sub>1</sub>-s</u>	<u>sā-yā-s</u>	<u>san-yā-s</u>	<u>gam-yá-s</u>
3 <sup>sg</sup>	<u>sñh<sub>2</sub>-yéh<sub>1</sub>-t</u>	<u>sā-yā-t</u>	<u>san-yā-t</u>	<u>gam-yá-t</u>
1 <sup>pl</sup>	<u>sñh<sub>2</sub>-ih<sub>1</sub>-mé</u>	<u>sē-ma</u>	<u>san-ē-ma</u>	<u>gam-é-ma</u>
2 <sup>pl</sup>	<u>sñh<sub>2</sub>-ih<sub>1</sub>-té</u>	<u>sē-ta</u>	<u>san-ē-ta</u>	<u>gam-yá-ta</u>
3 <sup>pl</sup>	<u>sñh<sub>2</sub>-ih<sub>1</sub>-ént</u>	<u>sē-yur</u>	<u>san-ē-</u>	<u>gam-yá-yur</u>

1. The regular pre-Sanskrit phonological reflexes of the PIE forms

2. The analogical reintroduction of the full grade root

paradigm (2), after the relevant phonological developments have taken place (1), and these forms then need to spread from laryngeal-final roots such as *san* to roots such as *gam* (where the regular phonological development would have given *gam-yā/gm-ī*. This explanation does not provide a convincing account of the distributional properties of the *gaméma*-type optative either: on the contrary, it actively predicts that the *ē*-forms should characterise all three plural persons equally and provides no obvious explanation for the first person singular forms. It also worth noting that the supposed template for Bammesberger's analogy consists of only two verbs (*vanéma* and *sanéma*), of which Pinault rejects one, *vanéma*, on the basis of the fact that it shows a thematic form in the indicative also; Pinault does not mention *sanéma* at all (Pinault 2015, 159).

The existence of *gaméma*-optatives has even been used to argue for an Italo-Celtic link, as these language families appear to share an otherwise unique *ā*-optative, which has no obvious explanation as a reflex of any traditionally reconstructed PIE category<sup>6</sup> (Bammesberger 1982, 283). This view, however, is *a priori* very unlikely and is rightly rejected by Bammesberger. Reconstructing such a category for PIE would require the coexistence of two isofunctional optative categories in PIE, as well as their complete disappearance, without identifiable reflex, in all branches other than these three. Nor would this hypothesis explain why the forms in Indo-Iranian are limited to the first person. In addition, the Celtic *ā*-subjunctive at least has a satisfactory branch-internal explanation, and it is by no means clear that the Italic morpheme is cognate (see section 2.6.).

The relationship between the Optative and the aspect stems in Sanskrit is also noteworthy. Aorist and perfect optatives in Vedic Sanskrit, though not non-existent, are comparatively rare (Dahl 2010, 310). In particular, optatives created onto secondary stem formations (as opposed to root verbs) are uncommon in the Rigveda (Sihler 1995, 591). A striking lacuna is the sigmatic aorist, which does not attest an optative at all: suppletive optatives are instead formed from the root (see section 5.4. for a more thorough discussion of the implications of this datum) (Jasanoff 2003, 185). The sigmatic aorist does, however, attest an aberrant Optative reflex *gram* in Sanskrit which usually referred to as the *Precative*. This paradigm seems to find its origin in the aorist stem third person optative, which had been analogically remodelled to *-yā-s* (rather than expected *†-yā-t*) under the influence of the sigmatic

<sup>6</sup> However, see section 2.6. for an alternative hypothesis which derives the ending from the thematic optative.

**Figure 5: A morphological overview of the Sanskrit optative**

	<i>thematic active</i>	<i>thematic middle</i>	<i>gaméma type</i>
1 <sup>st</sup> person singular	bhár-ēy-am	bhár-ēy-a	gam-é-yam
2 <sup>nd</sup> person singular	bhár-ē-s	bhár-ē-thās	gam-yá-s
3 <sup>rd</sup> person singular	bhár-ē-t	bhár-ē-ta	gam-yá-t
1 <sup>st</sup> person dual	bhár-ē-va	bhár-ē-vahi	gam-yá-va
2 <sup>nd</sup> person dual	bhár-ē-tam	bhár-ēy-āthām	gam-yá-tam
3 <sup>rd</sup> person dual	bhár-ē-tām	bhár-ēy-ātām	gam-yá-tām
1 <sup>st</sup> person plural	bhár-ē-ma	bhár-ē-mahi	gam-é-ma
2 <sup>nd</sup> person plural	bhár-ē-ta	bhár-ē-dhvam	gam-yá-ta
3 <sup>rd</sup> person plural	bhár-ē-yur	bhár-ē-ran	gam-yá-yur

	<i>athematic active</i>	<i>athematic middle</i>	<i>“to be”</i>
1 <sup>st</sup> person singular	dviṣ-yá-m	dviṣ-īy-á	s-yá-m
2 <sup>nd</sup> person singular	dviṣ-yá-s	dviṣ-ī-thās	s-yá-s
3 <sup>rd</sup> person singular	dviṣ-yá-t	dviṣ-ī-tá	s-yá-t
1 <sup>st</sup> person dual	dviṣ-yá-va	dviṣ-ī-váhi	s-yá-va
2 <sup>nd</sup> person dual	dviṣ-yá-tam	dviṣ-īy-āthām	s-yá-tam
3 <sup>rd</sup> person dual	dviṣ-yá-tām	dviṣ-īy-ātām	s-yá-tām
1 <sup>st</sup> person plural	dviṣ-yá-ma	dviṣ-ī-máhi	s-yá-ma
2 <sup>nd</sup> person plural	dviṣ-yá-ta	dviṣ-ī-dhvám	s-yá-ta
3 <sup>rd</sup> person plural	dviṣ-yá-yur	dviṣ-ī-rán	s-y-úr

	<i>precative active</i>	<i>precative middle</i>
1 <sup>st</sup> person singular	budh-yás-am	bodhis-īy-á
2 <sup>nd</sup> person singular	budh-yás	bodhis-ī-thās
3 <sup>rd</sup> person singular	budh-yát	bodhis-ī-tá
1 <sup>st</sup> person dual	budh-yás-va	bodhis-ī-váhi
2 <sup>nd</sup> person dual	budh-yás-tam	bodhis-īy-āthām
3 <sup>rd</sup> person dual	budh-yás-tām	bodhis-īy-ātām
1 <sup>st</sup> person plural	budh-yás-ma	bodhis-ī-máhi
2 <sup>nd</sup> person plural	budh-yás-ta	bodhis-ī-dhvám
3 <sup>rd</sup> person plural	budh-yás-ur	bodhis-ī-rán

*Paradigms based on Mayrhofer (1978, 68, 71–72, 87), Voyles and Barrack (2009, 525–542), Whitney (1889, 212–3) and Fortson (2010, 107).*

injunctive. Since this form had the appearance of a sigmatic optative (-yā-s as if from †-yā-s-t) it gave rise to an entire paradigm with an -s- interposed between the modal suffix and the personal endings (see figure 5) (Gotō 2017, 362). Again, this category is clearly secondary and is of little relevance in the reconstruction of the PIE ancestor.

The Sanskrit thematic Optative is characterised by a suffix -ē- before consonants and -ēy- before vowels. If this reflects PIE \*-oy-, the anteconsonantal reflex is regular, and can then be assumed to have spread by analogy to the antevocalic endings also, where regular phonological development would have given \*-o-yV- > †-a-yV- (Jasanoff 2009, 52). The Sanskrit evidence is also compatible with a PIE suffix \*-o-ih<sub>1</sub>-, as Saussure-Hirt’s Law dictates

that laryngeals would dropped out in this context before endings beginning with a consonant ( $h_x > \emptyset/oR_C$ ) (Weiss 2009, 113). Before vowels the laryngeal would have left no reflex anyway.

Gathic Avestan, like Vedic Sanskrit, forms its Optative with an ablauting modal suffix  $-yā/-ī-$ , a clear phonological reflex of a putative ancestral suffix  $*-ieh_1-/*-ih_1-$ , followed by secondary endings (Hoffmann and Forssman 2004, 178). The thematic equivalent is  $-ai-$  with thematic vowel. The regular processes of root formation are also identical to those of Sanskrit, in that the zero-grade root is used in the present stem optative, and the root aorist optative serves as a suppletive optative to sigmatic aorists. In addition, the reality of this distribution in the attested texts is guaranteed by the fact that there is no similar absence of sigmatic subjunctives. Interesting also is the fact that Gathic Avestan preserves direct evidence for the presence of a laryngeal in the athematic full grade suffix, in the form of a disyllabic first person singular  $-ya?-am$  (Beekes 1988, 159–60).

The main interest of Gathic Avestan for our understanding of the history of the Indo-Iranian Optative lies in the apophonic patterns it preserves, which are not consistently identical to its Sanskrit counter-parts. A Gathic root aorist optative form such as  $diiāt$  < PIE  $*d^h h_1-yéh_1-t$  must be archaic, since it is highly unlikely that the recessive zero grade root was secondarily extended to the optative. On the strength of such forms as these, it has usually been assumed that *all* optatives formed from root aorist stems must have taken the zero grade root, to the point where aberrant forms in the extant texts have been amended through conjecture (Hoffmann 1975, 245–46). A number of Gathic Avestan forms, however, clearly need to be understood as the reflexes of PIE preforms with an accentuated  $e$ -grade root (Pinault 2015, 166). The verbs in question, as identified by Hoffmann (1975, 246–47), are the first person plural forms  $varāzīmā(cā)$  < PIE  $*wérǵ-ih_1-me$ , from the root  $*wérǵ$  “to work, to do” (Rix 2001, 686–87),  $srāuuīmā$  < PIE  $*kléw-ih_1-me$ , from the root  $*kléw$  “to hear” (Rix 2001, 334–35) and  $zaēma$  <  $*ǵ^héh_1-ih_1-me$ , from the root  $ǵ^héh_1$  “leave behind” (Rix 2001, 173).<sup>7</sup> A possible singular equivalent of these forms is attested in  $vainīt$ , a third person singular optative form with a zero grade modal suffix and a root which could in theory be either full grade or zero grade, but is generally assumed to be full grade due to the zero grade of the modal suffix (Jasanoff 1991, 104).

The multiplicity of attested forms means that establishing the ancestral root apophony of the aorist Optative is not an issue that can be resolved with reference to the Indo-Iranian evidence alone. Since we are beholden to the comparative evidence, the relevance of these Avestan forms for the reconstruction of the ancestral apophony will be considered in section 4.1., along with those other branches which supply comparanda that are potentially relevant to this issue – namely, Greek (section 2.5.) and Germanic (section 2.6.).

## 2.5. Greek

The Greek branch of Indo-European is richly attested in the literary tradition of ancient Athens, which flourished in the fifth century B.C.E. (Fortson 2010, 250). In this branch the

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<sup>7</sup> Phonologically,  $zaēma$  could also be interpreted as thematic, but given the existence of other roots which demand the full grade this assumption is unnecessary (Pinault 2015, 166).

Optative was very much alive and is found in the extant texts with great frequency.<sup>8</sup> Figure 7 summarises the morphological evidence for the Optative mood in this period of the Greek language. In addition to these “classical” forms, the distribution of forms preserved in the work of Homer (ca. 700 B.C.E.) and alternative forms attested in Greek dialects other than Attic (e.g. Cretan) can provide crucial insights into the past history of the Greek Optative as well. All of these language varieties will, therefore, be considered in this section. It should also be noted that Greek language branch is attested as early as the middle of the second millennium B.C. in the form of Mycenaean Greek, but to the best of my knowledge this earliest stratum of the Greek language attests no optative forms, due to its fragmentary attestation.

In general terms, the Greek Optative closely mirrors its Sanskrit equivalents. As in Sanskrit, the Optative almost invariably employs secondary endings (with a few notable exceptions), resulting in such forms as  $\theta\epsilon\acute{\iota}\eta\varsigma$  rather than the equally thinkable  $\dagger\theta\epsilon\acute{\iota}\eta\sigma\iota$ . As in Sanskrit, apparent reflexes of old apophonic patterns are preserved, with a recurrent variation between strong and weak modal suffixes. As in Sanskrit, the basic athematic paradigm can be derived from a hypothetical preform of the shape  $*-yeh_1-/-ih_1-$ . This can be seen in the verb  $\epsilon\acute{\iota}\nu\alpha\iota$  “to be”, from PIE  $*h_1es$  (Rix 2001, 241–42), where the singular forms take the shape  $\epsilon\acute{\iota}\eta\nu$  [ $ey\acute{e}n$ ], from a full grade optative suffix appended to a zero-grade root present  $*h_1s-yeh_1-m > *es-y\acute{e}-n > e-y\acute{e}n$ , whereas plural forms such as  $\epsilon\acute{\iota}\mu\epsilon\nu$  [ $eimen$ ] derive from a zero-grade suffix  $*h_1s-ih_1-me > *es-\bar{i}-men > eimen$  (Sihler 1995, 596)

The verb  $\epsilon\acute{\iota}\nu\alpha\iota$ , however, is the only verb which presents such an apparently clean picture. The situation becomes considerably more problematic when one moves to laryngeal-final roots, which include the most common Greek athematic verbs, such as  $\tau\acute{\iota}\theta\eta\mu\iota$  and  $\delta\acute{\iota}\delta\omega\mu\iota$ , from the *i*-reduplicated Proto-Indo-European roots  $*d^heh_1$  “to put” (Rix 2001, 136–37) and  $*deh_3$ , “to give” (Rix 2001, 105–6), respectively. The full-grade variant  $-yeh_1-$  cannot directly underlie athematic singular endings of the type  $\tau\acute{\iota}\theta\epsilon\acute{\iota}\eta$  [ $tit^hey\acute{e}$ ], or indeed their non-reduplicated aorist counterpart  $\theta\epsilon\acute{\iota}\eta$  [ $t^hey\acute{e}$ ]. Phonologically, the forms with the full grade modal should have given  $*d^hi-d^h_1h_1-y\acute{e}h_1-t > *ti-t^he-y\acute{e}-t > \tau\acute{\iota}\theta\acute{\epsilon}\eta$  (or  $\tau\acute{\iota}\theta\acute{\eta}$  if one starts from the Lindeman variant  $-iyeh_1-$ ), with regular loss of the intervocalic yod, rather than the attested diphthongal form (Jasanoff 1991, 103). It is generally assumed that the  $-y-$  was restored by analogy, but this explanation, of course, requires a plausible source paradigm for the analogical extension, where the retention of the yod was regular.

Unfortunately, it is not at all clear if the phonological reflex of the zero-grade forms contained a diphthong either. Some scholars have argued that a form such as  $\tau\acute{\iota}\theta\epsilon\acute{\iota}\mu\epsilon\nu$  [ $tit^heymen$ ] can be interpreted as the direct reflex of a zero-grade optative suffix  $*-ih_1-$  (Sihler 1995, 596). Jasanoff argues that a regular phonological derivation is, in fact, *not* possible, as one would have expected zero grade  $\dagger\tau\acute{\iota}\theta\bar{\iota}\mu\epsilon\nu < *ti-t^h-\bar{i}-men < \text{PIE } *d^hi-d^h_1h_1-ih_1-me$  (Jasanoff 1991, 103). The antevocalic laryngeal should not be syllabic by the regular rules of PIE syllabification (Fortson 2010, 71). The same situation holds in other roots, such as  $\delta\acute{\iota}\delta\omega\mu\iota$ , where one would expect a present optative  $\dagger\delta\acute{\iota}\delta\bar{\iota}\mu\epsilon\nu < \text{PIE } *di-dh_3-ih_1-me$  and an aorist optative  $\delta\acute{\iota}\mu\epsilon\nu < \text{PIE } *dh_3-ih_1-me$ .

It should be noted that the athematic optative also attests apparent reflexes of the full grade in the plural forms. This concerns forms such as  $\tau\acute{\iota}\theta\epsilon\acute{\iota}\eta\mu\epsilon\nu$ . Since these optatives have the effect of analogically aligning the plural with the singular, they are clearly secondary and may

<sup>8</sup> The search term *form:optative* in the Greek corpus of *Perseus under Philologic* returns 29,509 results (<http://perseus.uchicago.edu/Greek.html>).

be ignored for reconstructive purposes. The methodology of internal reconstruction rests on the assumption that synchronically unproductive patterns, including, in this case, apophonic variation between the singular and the plural, are more likely to be replaced by productive patterns than *vice versa* (Rix 1986, 6). The documentary evidence confirms this inference: in Homer, our earliest evidence for the optative, the forms in question are rare (Smyth and Messing 1956, 151).

The fact that inherited apophonic variation needs to be reconstructed for the Greek athematic optative places a limit on how much analogy can plausibly be postulated to explain the attested forms. Analogy is certainly a common phenomenon in language change (Hock 2003, 441), but its invocation in historical linguistics to gloss over inconvenient forms is methodologically suspect. Too often analogy is the linguist’s analogue of the magician’s wand, with almost unlimited powers to dispose of data that falsify the hypothesis under discussion. In this case, it would be distinctly strange to assume that numerous bouts of back-and-forth analogy between the singular and the plural could have taken place *without* effacing the original apophonic distinction between them. After all, there is no obvious reason why a tendency to level the paradigm would do so only partially, leaving the most salient distinctions intact. Fortunately, in this case a simple solution suggests itself when one takes into consideration the relative chronology of the sound changes involved

The loss of intervocalic yod was certainly later than any laryngeal reflex in Greek – since documentary evidence for former is preserved in Mycenaean Greek (Sihler 1995, 188) – so we may postulate an intermediate root aorist paradigm with first person singular *\*t<sup>h</sup>e-yē-m* and first person plural *\*t<sup>h</sup>-ī-men*. This paradigm was subject to several convergent analogical pressures towards the remodelling of the plural forms. The first of these came from the fact that the regular zero grade reflex of this verb in its other weak forms was *-t<sup>h</sup>e-*, as evidenced by the imperative *θέτε*, for instance. Secondly, the fact that the singular optative was characterised by a diphthong *-ey-* is likely to have played a role. Thirdly, though more tentatively, the existence of at least one very common root which gave diphthongal plural optatives regularly – *\*h<sub>1</sub>s-* (“to be”) with forms such as *εἶμεν* – may have provided an additional pressure towards the regularisation of the laryngeal-final roots. Considering the disparate nature of these pressures, it is not so surprising to find the intrusion of the simple diphthong into the plural paradigm (without the long *ē* of the singular accompanying it and thus effacing the apophonic distinction). The loss of intervocalic yod in the singular was a

**Figure 6. The origin of the laryngeal-final optative forms in Greek**

	PIE	1	2	Classical Greek
1 <sup>sg</sup>	$d^hi-d^h_{h_1}-yē_{h_1}-m$	$ti-t^he-yē-m$	$ti-t^he-yē-m$	$τι-θείη-ν$
2 <sup>sg</sup>	$d^hi-d^h_{h_1}-yē_{h_1}-s$	$ti-t^he-yē-s$	$ti-t^he-yē-s$	$τι-θείη-ς$
3 <sup>sg</sup>	$d^hi-d^h_{h_1}-yē_{h_1}-t$	$ti-t^he-yē-t$	$ti-t^he-yē-t$	$τι-θείη$
1 <sup>pl</sup>	$d^hi-d^h_{h_1}-ih_1-mé$	$ti-t^h-ī-men$	$ti-t^he-y-men$	$τι-θεί-μεν$
2 <sup>pl</sup>	$d^hi-d^h_{h_1}-ih_1-té$	$ti-t^h-ī-te$	$ti-t^he-y-te$	$τι-θεί-τε$
3 <sup>pl</sup>	$d^hi-d^h_{h_1}-ih_1-ént$	$ti-t^h-ī-nt$	$ti-t^he-y-nt$	$τι-θεί-εν$

1. The regular pre-Greek phonological reflexes of the PIE forms

2. The analogical extension of the diphthong *-ey-* to the plural.

later process, which must have been counteracted by analogy with the by then well-established diphthong in the plural. Figure 6 summarises the development which needs to be assumed. It is possible that the *i*-reduplicated present optative originally had an invariant zero grade *\*-ih<sub>1</sub>-*, as is sometimes assumed for PIE (Jasanoff 1991, 101) – in which case the presence of *-εῖη-* in the singular must be the result of analogy with the aorist optative – but Greek provides no independent evidence for this.

It is important to emphasise that there is a significant lacuna in our understanding of the prehistory of the Greek optative, due simply to the thematisation of originally athematic roots (Sihler 1995, 515). By the account given above, the only reason the regular optative paradigm of a root like εἶναι resembles that of τίθημι and δίδωμι at all is because of the fortuitous loss of intervocalic *-s-* in proto-Greek. This is not only suspiciously convenient in itself, it raises the crucial question: what would have happened in root presents of which the stem did not end in a laryngeal or an *-s-*? The question is unanswerable, since Greek does not attest any such optatives, but the regular phonological reflexes would have been highly irregular, given the multiple assimilations and metatheses inherited *-y-* would have been expected to undergo (Sihler 1995, 189–96). The fact that the athematic optative in Greek was regularised through analogy is, therefore, distinctly unsurprising.

The Greek thematic forms are equally hard to explain, and for much the same reason. The Greek endings are all preceded by a modal suffix *-οι-* [*oy*], or (by a different morphological analysis) an *o*-coloured theme vowel followed by a modal suffix *-i-*, presumably identical to the athematic modal suffix *-i-* < *\*-ih<sub>1</sub>-*. As in Sanskrit, a simple diphthong *oi* cannot be postulated as ancestral to the Greek optative without recourse to analogical remodelling. Before an ending beginning with a consonant, a diphthongal reflex would have been regular – thus *\*b<sup>h</sup>er-oy-t* > *\*p<sup>h</sup>er-oy-t* > φέρ-οι [*p<sup>h</sup>er-oy*], with the usual loss of the word-final dental (Sihler 1995, 226–27) – but not before a vowel, where the intervocalic loss of the yod would be expected, giving *\*b<sup>h</sup>er-oy-ηto* > *\*p<sup>h</sup>er-oy-ato* > †φερόατο [*p<sup>h</sup>er-o-ato*]. If the vocalic reflexes are regular, they suggest a PIE preform *\*-oy.y-* (as a geminate yod would not have dropped out) or a PIE syllable boundary between the theme vowel and the modal suffix, giving *\*-o-ī-*, which might plausibly have given a diphthong only *after* the loss of intervocalic yod (Jasanoff 2009, 53).

The vocalic endings can be reconciled with a simple PIE diphthong *-oy-* only if analogy is invoked. The diphthong in question, which was regularly preserved before consonants, could then have replaced the expected monophthongal reflex before vowel-initial endings (Jasanoff 2009, 52). It should be noted that Attic Greek attests no vowel-initial endings at all in the optative, but their existence in Proto-Greek is assured by relic forms in Homeric Greek and Arcadian Greek, as will be seen in the discussion of the personal endings below.

Jasanoff is critical of analogical solutions to the thematic conjugation in Greek, as well as in Sanskrit, on the basis of the observation that analogical processes did not similarly level those other verbal paradigms which were rendered opaque through the operation of phonological change. He cites the example of the verb κείναι, which obeys the regular rule of intervocalic *-y-* loss in vowel-initial forms such as κέ-αται, despite the aberrant conjugation this creates (Jasanoff 2009, 52–3). One might adduce various considerations for or against the validity of this comparison. On the one hand, regularising analogical change is known to proceed slower in language items with a higher token frequency (Bybee 2006, 715), so its absence in relatively low-frequency item such as κέαται might be an indication that its absence in a

high-frequency Optative morpheme is to be expected *a fortiori*. In addition, the analogical regularisation would have to have taken place independently in both Greek and Sanskrit (see section 2.4.), which is arguably a violation of the principle of parsimony.

These observations, however, are balanced by considerations of system pressure. Unlike the *-y-* in κείναι, the optative can occur with every verb, often with multiple aspect stems, and may thus plausibly have been subject to greater pressure for paradigmatic transparency. Thus if the recurrent phoneme *-y-/i-* was strongly associated with the optative function throughout the verb system, as is not unlikely, its absence in a form such as †φερόατο might have felt considerably more jarring to the language user than the absence of the *-y-* in κέαται (cf. Willi 2018, 10). In an intermediate stage of *-y-* loss, where both forms were available – a situation attested in Mycenaean Greek [Sihler 1995, 188] – language speakers would have preferentially used the clearer, better motivated forms with the glide.

The basic “regular” sigmatic aorist optative (found in forms such as λύσαι) is clearly secondary. It represents what one might call the “alpha-thematic” equivalent of the regular thematic optative in οι, with the characteristic α of the aorist substituted for the *o*-coloured theme vowel (Sihler 1995, 598). However, clear traces of older sigmatic optatives are preserved as well. The first of these is the Cretan optative formation in *-s-i-*, which gives forms such as third person singular κοσμησιε [*kosmē-s-ie*] and third person plural φερκοσιν [*werk-s-ien*] (Jasanoff 1991, 116). This is a plausible candidate for an older sigmatic aorist optative, as it has no obvious analogical source: since the other paradigms of the sigmatic aorist are characterised by a consistent characteristic *-a-*, motivating the replacement of this morphologically aberrant pattern by an analogical alpha-thematic paradigm is trivial. The Cretan optative seems to contain a reflex *-i-* of the zero grade modal suffix *\*-ih<sub>1</sub>-*. The third person plural ending *-en* is clearly a reflex of *-ent*; the third person singular *-e* could be explained either as analogically introduced from the indicative (Pinault 2015, 189) or as a reflex of an ancestral PIE ending *-e* (Jasanoff 1991, 117).

More problematic is the *ey*-optative, traditionally known as the *Aeolic optative* – despite the fact that it is not actually attested in the Aeolic dialect (Smyth and Messing 1956, 194–95) – which in Attic is commonly used for the 2<sup>nd</sup> person singular and the 3<sup>rd</sup> person singular and plural. Ancient grammars make reference to the existence of other persons as well, although the authenticity of these forms is questionable (Jasanoff 1991, 116; Pinault 2015, 188). As Sihler (1995, 598) argues, the (unattested) first person singular is easily explicable if one assumes an underlying morpheme *-sey-* (or perhaps better *-ey-*, considering that the aorist stem is sigmatic). The form *-eya* would have been the regular reflex of a preform *-eyṃ*, with a syllabic nasal, and from this form the other persons could have been created by analogy with the regular athematic indicative. However, this does not explain the distribution of resultant forms in the documentary record, and it “explains” the forms in question only by postulating an unexplained morpheme.

Pinault’s explanation of the *ey*-optative in its essentials equivalent to that of Sihler. Pinault goes further than Sihler, however, in that he proposes an etymological origin for the morpheme in question, regarding it as the antevocalic reflex of *< \*s-h<sub>1</sub>ih<sub>1</sub>-V* (Pinault 2015, 188–189). The attested *ey*-optative forms can be derived from this PIE preform if one assumes laryngeals disappeared before word-final vowels, as this would give first person *\*s-h<sub>1</sub>y-ṃ > s-ey-a*. Although this development would neatly explain the origin of this particular Greek suffix, it suffers under the serious limitation that there is almost no further evidence for the

presence of an initial laryngeal in the optative suffix, and thus is suspiciously unparsimonious. The interpretation principally derives its legitimacy from Pinault's identification of the optative suffix as a grammaticalised PIE verb root  $h_1yeh_1$ , a hypothesis will be considered in section 4.3.

Jasanoff believes the *ey*-optative can be derived from the older Cretan optative by postulating the same replacement of the modal suffix *-i-* by a diphthong that was postulated for the athematic optative of τίθημι, introduced originally to the first and second persons plural, and later to the rest of the paradigm. The third person plural, for which Jasanoff's hypothesis predicts an ending of the shape *-ey-en*, needs to be accounted for by analogy with the indicative ending *-an*. A potential weakness of this hypothesis is that it cannot explain the Arcadian dialect form διακωλυσει, which under Sihler's interpretation can be analysed as a simple phonological reflex of  $*-s-ey-t > -s-ey$ . Jasanoff interprets this ending as a contamination of the *ey*-optative and the alpha-thematic ending *-ay* (Jasanoff 1991, 119).

The Greek Optative is found with all stem types. However, the synthetic perfect optative (forms such as λελύκοι) is almost non-existent in classical Greek, and the periphrastic construction (forms such as λελυκῶς εἶη, created by the combination of the perfect participle with the relevant form of the verb "to be") becomes increasingly rare as one goes back to the older texts (Harry 1905, 351–52).

Finally, some of the personal endings of the Greek optative paradigm require specific note as well. Since the endings of the Optative are generally secondary, one would have expected a reflex of the secondary ending  $*-m$  for the first person. This is the ending one does indeed encounter in the athematic optative, with a form such as εἶην derived from  $*h_1s-yéh_1-m > *es-yē-n > e-yēn$ , with the regular operation of Stang's Law ( $\check{V}h_xN > \check{V}N$ ) (Fortson 2010, 70) and the Greek development of word-final *m* to *n* ( $m > n/_\#$ ). In the thematic optative, however, one might have expected an ending of the shape *-οια* [*oya*] (with the reflex of a syllabic nasal  $*oy̯m$ ). This ending is indeed encountered in Arcadian Greek (Sihler 1995, 579), but the more commonly attested form is *-oy-mi*, with the primary athematic ending. The reason for the appearance of the athematic ending, rather than the more expected renewal of the secondary ending *-m* ( $*-oy-m > -οιυ$ ), is unknown. The form *-οιυ* is attested, but not until Euripides (in the fifth century) and is clearly secondary (Rix 1976, 262).

Other reflexes of syllabic nasals are replaced in a more transparent fashion. The third person plural of the thematic optative should be *-a* by regular development ( $*b^her-o-ih_1-ŋt > *p^her-oy-at > †φέρο(ι)α$  [ $p^hér-o(y)-a$ ]); the attested form is φέροιεν [ $p^hér-oy-en$ ], with an ending *-en* introduced from the athematic conjugation (Sihler 1995, 597). The same is true of the middle third person plural  $*b^her-o-ih_1-ŋto (> φέροιοντο)$ . The fact that regular reflexes are occasionally found – Homeric Greek, for instance, attests the middle third person plural *-oyato*  $< *oy̯nto$  – makes it probable that the forms in question are secondary. A different view on the active ending is expressed by other scholars, including Jasanoff (2009, 50–2) and Pinault (2015, 181), who use forms of this type to argue that the PIE Optative third person plural ending was an invariant *-ent* (an ending which would have given Greek *-εν* [*en*] regularly), and that the recurrence of this ending was a distributional peculiarity of the Optative.

It is also noteworthy that various instances of contamination between the thematic and the athematic forms that do not constitute mere analogical regularisations appear to have taken place as well. An example is the athematic verb κάθημαι, which uses thematic optative forms

**Figure 7: A morphological overview of the Greek optative**

	<i>thematic active</i>	<i>thematic middle</i>	<i>contracted thematic</i>
1 <sup>st</sup> person singular	λύ-οι-μι	λυ-οί-μην	ποι-οίη-ν <sup>1</sup>
2 <sup>nd</sup> person singular	λύ-οι-ς	λύ-οι-ο	ποι-οίη-ς
3 <sup>rd</sup> person singular	λύ-οι	λύ-οι-το	ποι-οίη
2 <sup>nd</sup> person dual <sup>2</sup>	λύ-οι-τον	λύ-οι-σθον	ποι-οίη-τον
3 <sup>rd</sup> person dual	λυ-οί-την	λυ-οί-σθην	ποι-οίη-την
1 <sup>st</sup> person plural	λύ-οι-μεν	λυ-οί-μεθα	ποι-οίη-μεν
2 <sup>nd</sup> person plural	λύ-οι-τε	λύ-οι-σθε	ποι-οίη-τε
3 <sup>rd</sup> person plural	λύ-οι-εν	λύ-οι-ντο	ποι-οίη-σαν

	<i>sigmatic active</i>	<i>sigmatic middle</i>	<i>θη-passive</i>
1 <sup>st</sup> person singular	λύ-σ-αι-μι	λυ-σ-αί-μην	λυ-θείη-ν
2 <sup>nd</sup> person singular	λύ-σ-αι-ς, -εια-ς	λύ-σ-αι-ο	λυ-θείη-ς
3 <sup>rd</sup> person singular	λύ-σ-αι, -εια	λύ-σ-αι-το	λυ-θείη
2 <sup>nd</sup> person dual	λύ-σ-αι-τον	λύ-σ-αι-σθον	λυ-θεί-τον <sup>4</sup>
3 <sup>rd</sup> person dual	λυ-σ-αί-την	λυ-σ-αί-σθην	λυ-θεί-την
1 <sup>st</sup> person plural	λύ-σ-αι-μεν	λυ-σ-αί-μεθα	λυ-θεί-μεν
2 <sup>nd</sup> person plural	λύ-σ-αι-τε	λύ-σ-αι-σθε	λυ-θεί-τε
3 <sup>rd</sup> person plural	λύ-σ-αι-εν, -εια-ν	λύ-σ-αι-ντο	λυ-θεί-εν

	<i>athematic active</i>	<i>athematic middle</i>	<i>“to be”</i>
1 <sup>st</sup> person singular	τι-θείη-ν	τι-θεί-μην	εἶην
2 <sup>nd</sup> person singular	τι-θείη-ς	τι-θεί-ο	εἶης
3 <sup>rd</sup> person singular	τι-θείη	τι-θεί-το	εἶη
2 <sup>nd</sup> person dual	τι-θεί-τον <sup>3</sup>	τι-θεί-σθον	εἶτον
3 <sup>rd</sup> person dual	τι-θεί-την	τι-θεί-σθην	εἶτην
1 <sup>st</sup> person plural	τι-θεί-μεν	τι-θεί-μεθα	εἶμεν
2 <sup>nd</sup> person plural	τι-θεί-τε	τι-θεί-σθε	εἶτε
3 <sup>rd</sup> person plural	τι-θεί-εν	τι-θεί-ντο	εἶεν

<sup>1</sup> Contracted from ποιε-οίη-ν. The same contraction holds for the rest of this paradigm.

<sup>2</sup> Greek lacks a 1<sup>st</sup> person dual.

<sup>3</sup> Alternative forms extending the -η- suffix to the dual and plural forms are also attested (e.g. λυ-θείη-τον) (Smyth and Messing 1956, 151).

*Paradigms adapted from Smyth and Messing (1956, 114–18, 121, 135–37, 211).*

such as καθοίμην (Liddell and Scott 1901, 722). Verbs such as τίθημι also sporadically attest thematic forms. In addition, Greek contract verbs seem to have taken over the athematic optative conjugation by analogy with verbs such as διδοίην/δίδοιμεν (from δίδωμι) (Sihler 1995, 597). This may have occurred partly in order to retain the distinctivity of the optative ending when it was in danger of being obscured by contraction: the contraction of a form such as τιμάοι would have resulted in τιμῶ, which would have been identical to the

subjunctive. Again, all of these forms are obviously secondary and are not relevant for the reconstruction of the PIE ancestor.

## 2.6. Balto-Slavic and the western branches

This section provides an overview of the Optative reflex grams found in the Balto-Slavic, Italic, Celtic and Germanic branches of Indo-European. These branches are less immediately relevant to the reconstruction of the Proto-Indo-European Optative than Greek or Sanskrit: as will soon be apparent, they are considerably less conservative, both in their continuation of the original Optative category itself, and in their reflection of its probable formal characteristics in the ancestral language. Nevertheless, the forms attested in these branches provide a number of potentially important clues to the shape and apophony of the optative modal suffix.

The Slavic branch attests an Imperative category which formally continues the PIE Optative. Figure 8 provides the paradigm of the Imperative in Old Church Slavonic, the oldest attested Slavic language (Langston 2017a, 1398). Although a number of forms have been replaced through suppletion from the indicative, forms such as *vedi* appear to reflect the PIE thematic optative *\*-o-ih<sub>1</sub>-* (Olander 2015, 337). The zero grade athematic suffix *\*-ih<sub>1</sub>-* is preserved in athematic verbs, which thus provide Slavic evidence for the existence of a modal suffix *\*-yeh<sub>1</sub>-/-ih<sub>1</sub>-*, although the zero grade appears to have been generalised throughout (Langston 2017b, 1554).

Like Slavic, with which it shares a unique common ancestor, Proto-Balto-Slavic (Ringe 2017, 63), the Baltic branch attests an Optative reflex gram which is synchronically an Imperative. Although most of the Baltic Imperative forms are diachronically unrelated to the PIE Optative morpheme – Lithuanian, for instance, normally uses a morpheme *-k-* to form its Imperative – there are a few exceptions. Specifically, the Old Prussian Imperative on *-ai-* reflects the PIE thematic optative *-oi-*, as does the Lithuanian relic third person Imperative (“Permissive”) found in forms such as *te-dirb-iẽ* (Ambrasas and Schmalstieg 2018, 1662)

Although for the formal reconstruction of the optative these relic forms may appear to be of limited interest, the information supplied by the Balto-Slavic accentuation of the Imperative ending is in fact of crucial importance. Jasanoff (2009) argues that Balto-Slavic preserves evidence for the syllabic structure of the thematic suffix *\*-o-ih<sub>1</sub>-*. The rules governing the reorganisation of Balto-Slavic syllable are not well understood, but from a descriptive point of view disyllabic verb forms appear to retain the accent on the root while trisyllabic forms shift it forward to the ending. Since optative forms such as Lithuanian *te-dirb-iẽ* or *te-vediẽ* shift the accent to the ending, they must derive from a trisyllabic preform *vedáis* < PIE *\*wéd<sup>h</sup>-o-ih<sub>1</sub>-t* (Jasanoff 2009, 58–60). This suggests that the regular rules of PIE syllabification, which would have given *-oyh<sub>1</sub>t*, with a syllabic laryngeal, for some reason did not apply to this ending. The reason for this anomaly, which has possible links with observed reflexes in other branches, will be considered in more depth in section 4.1.

**Figure 8: A morphological overview of possible western Optative reflexes**

	<i>OCS Imperative</i>
1 <sup>st</sup> person singular	[do vedɔ]
2 <sup>nd</sup> person singular	vedi
3 <sup>rd</sup> person singular	vedi
1 <sup>st</sup> person dual	veděvě
2 <sup>nd</sup> person dual	veděta
3 <sup>rd</sup> person dual	[do vedeta]
1 <sup>st</sup> person plural	veděmŭ
2 <sup>nd</sup> person plural	veděte
3 <sup>rd</sup> person plural	[do vedɔtŭ]

	<i>Latin 1<sup>st</sup> conj.</i>	<i>Latin perf. subj.</i>	<i>Latin 2-5<sup>th</sup> conj.</i>
1 <sup>st</sup> person singular	am-e-m	ama-v-er-i-m	reg-a-m
2 <sup>nd</sup> person singular	am-ē-s	ama-v-er-ī-s	reg-ā-s
3 <sup>rd</sup> person singular	am-e-t	ama-v-er-i-t	reg-a-t
1 <sup>st</sup> person plural	am-ē-mus	ama-v-er-ī-mus	reg-ā-mus
2 <sup>nd</sup> person plural	am-ē-tis	ama-v-er-ī-tis	reg-ā-tis
3 <sup>rd</sup> person plural	am-e-nt	ama-v-er-i-nt	reg-a-nt

	<i>Latin "to want"</i>	<i>Latin "to be"</i>
1 <sup>st</sup> person singular	vel-i-m	s-ie-m
2 <sup>nd</sup> person singular	vel-ī-s	s-iē-s
3 <sup>rd</sup> person singular	vel-i-t	s-iē-t
1 <sup>st</sup> person plural	vel-ī-mus	s-ī-mus
2 <sup>nd</sup> person plural	vel-ī-tis	s-ī-tis
3 <sup>rd</sup> person plural	vel-i-nt	s-ie-nt

	<i>Germ. pres. act.</i>	<i>Germ. pres. mid.</i>	<i>Germ. pret. act.</i>
1 <sup>st</sup> person singular	ber-ō	ber-ēδō	bēr-ī
2 <sup>nd</sup> person singular	ber-ēz	ber-ēzō	bēr-īs
3 <sup>rd</sup> person singular	ber-ē	ber-ēδō	bēr-ī
2 <sup>nd</sup> person dual	ber-ēwe		bēr-iwe
3 <sup>rd</sup> person dual	ber-ēts		bēr-īts
1 <sup>st</sup> person plural	ber-ēmē	ber-ēndō	bēr-īme
2 <sup>nd</sup> person plural	ber-ēδ	ber-ēndō	bēr-īθ
3 <sup>rd</sup> person plural	ber-ēn	ber-ēndō	bēr-īne

Based on personal knowledge, Jasanoff (2009, 57), Fortson 2010 (107) and Voyles and Barrack (2009, 101–3).

Surprisingly, for a branch which has so drastically reorganised its verbal system, Italic preserves at least four formally distinct paradigms which have been identified as potential Optative reflex grams. The paradigms in question are synchronically the exponents of the Italic Subjunctive, a gram which originates from a fusion of the modal uses of the PIE

Subjunctive and Optative (Rix 2002, 7–8). The paradigms in question may be referred to as the  $\bar{a}$ -subjunctive, the  $\bar{e}$ -subjunctive and the  $\bar{i}$ -subjunctive – distinguished by the colour of the modal suffix – along with a fourth subjunctive paradigm that exceptionally preserves an apophonic distinction between the singular and the plural (preserved only for the verb “to be”, Proto-Italic \**es-*).

The last of these – the paradigm of the verb “to be” – is certainly the most striking (and most indisputable) Optative reflex gram preserved in the Italic languages. A singular form such as *siem* can be derived without problem from PIE \**h<sub>1</sub>s-yéh<sub>1</sub>-m*, with the full grade modal suffix, while its plural counterpart *sīmus* < PIE \**h<sub>1</sub>s-ih<sub>1</sub>-mé* preserves the zero grade. The root is consistently found in the zero grade: to the best of my knowledge no forms of the type †*esīm* are preserved.<sup>9</sup> The preservation of the apophonic distinction between the singular and the plural (with the exception of the third person plural) in this verb only is in accordance with the known tendency of inflected lexemes with a higher token frequency – such as the verb “to be” – to be more resistant to regularising changes. This phenomenon finds an explanation in the fact that a speaker’s memory of frequently used items is more readily retrieved from the memory (Bybee 2006, 715).

The  $\bar{i}$ -subjunctive is clearly identical to the subjunctive of the verb “to be” diachronically, with the apophonic variation levelled in favour of the zero grade form. Latin uses it in a number of synchronically irregular forms such as *velim*, in the unproductive aorist stem subjunctives of the *faxim* type, and concatenates it with a morpheme *-er-* < *-is-* to form the regular perfect subjunctive *amaverim* (Weiss 2009, 420, 430). If Jasanoff is right to identify *velim* as the optative of a Narten root present (from PIE < \**wél-ih<sub>1</sub>-m*), this form would preserve evidence for an acrostatic optative in Italic as well (Jasanoff 1991, 101). However, from a purely branch-internal perspective the levelling of an originally zero grade root by analogy with the full grade root of the indicative – with forms such as *volt* < Proto-Italic \**wel-ti* (De Vaan 2008, 687) – is also plausible.

The Optative origin of these paradigms is indisputable. Which, if any, of the other Italic modal categories correspond to the PIE Optative remains an open question. The most obvious candidate is the  $\bar{e}$ -subjunctive, found in the Italic  $\bar{a}$ -conjugation and probably underlying the Imperfect Subjunctive *-sē-*. There are two possible ways of explaining the category in etymological terms. Either it is the reflex of a full-grade optative *-ē-* < \**V-yéh<sub>1</sub>-* or it is a paradigmatic generalisation of the *e*-coloration of a long-vowel subjunctive (PIE \**-ō*, \**-ēsi*, \**-ēti*, etc.). It is difficult to decide between these two hypotheses. Considering that the two modal categories in question syncretised in Proto-Italic, it is possible that both sources contributed towards the Italic  $\bar{e}$ -Subjunctive (Rix 2002, 8).<sup>10</sup>

The  $\bar{a}$ -Subjunctive is considerably more problematic, as it has no obvious source at all. As noted in section 2.4., this category has even been, somewhat desperately, linked with the Sanskrit optative in *ēyá* to reconstruct a wholly new PIE category. Rix (2002, 10), expanding on Cowgill (1965, 160), proposes a phonological solution which reconciles the  $\bar{a}$ -Subjunctive with the regular PIE Optative. A regularly syllabified thematic optative \**oyh<sub>1</sub>* < \**o-ih<sub>1</sub>*, would,

<sup>9</sup> Note that indicatives such as *sum* or *sunt* do not reflect a PIE zero grade, but are in fact the result of secondary cliticisation, a development that can be observed in process in the historical record (Joseph and Wallace 1987).

<sup>10</sup> It is difficult to explain the contraction of *aē* to  $\bar{e}$ , rather than the expected  $\bar{a}$ , in the Latin first conjugation (Sihler 1995, 598–9). Whatever the solution to this problem, however, the uncontracted form *aē* is guaranteed by the Sabellic evidence (R. E. Wallace 2007, 30).

in a form such as *\*mon-ey-oyh<sub>1</sub>-ti*, have given pre-Proto-Italic *\*moneyoyati*. The regular pre-Proto-Italic loss of intervocalic *-y-* would have resulted in a sequence of three vowels, which Rix uses to motivate the otherwise unusual contraction *\*oa > ā*. This morpheme could then have spread by analogy to the other conjugations. However, this etymology is forced: the fact that it requires an otherwise unattested vocalic contraction, and a syllabification of the thematic optative which is incompatible with its reflexes in other branches (see section 4.1.), makes it a highly unparsimonious solution. On the whole, Weiss’s noncommittal conclusion that “the origin of the *ā*-Subjunctive is not entirely clear” is probably a safer assessment of the situation (Weiss 2009, 418). This agnostic sentiment is echoed elsewhere in the literature (Sihler 1995, 598).

Whatever the ultimate relationship between the Celtic and the Italic *ā*-subjunctive, the distributional properties of the Celtic subjunctive indicate that this formation, at least, does not derive from the PIE thematic optative. Specifically, the old Irish *ā*-subjunctive is replaced by a suffix *-s-* after strong verbs with a root-final dental or velar, while the British languages vary between traces of a suffix *-s-* and its regular reflex *-h-*, which is often secondarily lost. The unifying account, also suggested by Rix, departs from the PIE Desiderative suffix. After a resonant the desiderative ending was *\*-h<sub>1</sub>s<sup>e/o-</sup>* > *\*-ǰs<sup>e/o-</sup>*. This *ǰ* became long by analogy, either with the future suffix *-ās<sup>e/o-</sup>*, or with those verbs of which the stem regularly ended in *-ā-* (Stüber 2017, 1212–13). Celtic, therefore, attests no Optative reflex gram (Jasanoff 2009, 63).

The Germanic language branch continues both the thematic and the athematic Optative in the form of a Subjunctive (Ringe 2006, 171). The Germanic subjunctive *-ai-* is the usual form in the present stems, and can regularly continue a thematic preform *\*-oy-* or *\*-oih<sub>1</sub>-* (Harðarson 2017, 940). A smaller number of verbs use an athematic reflex *-ī-*, although the form is apophonically invariant and must therefore be derived from an analogical generalisation of the PIE zero-grade suffix *-ih<sub>1</sub>-* (Kim 2018a, 2): perhaps the most prominent example is the verb *\*wil-ī-*, where the Optative reflexes serve synchronically as simple present indicatives (Harðarson 2017, 940). The Germanic Preterite, which formally continues the PIE Perfect, forms an athematic subjunctive based on the same modal suffix *-ī-*, although this is replaced in Old English by the thematic reflex *-ai-* (Kim 2018a, 2). Kim (2018a) draws attention to the irregular pattern of umlaut found in the Germanic verb *\*cuman*, and specifically the Old English subjunctive *cyme*, *cymen*. In Kim’s view, this latter forms require a zero-grade aorist root: the presence of *i*-umlaut in *cyme*, *cymen* indicates that the paradigm was originally athematic, and thus derives from Proto-Germanic *\*kum-ī-* as if from PIE *\*g<sub>ṛ</sub>m-ih<sub>1</sub>-* (Kim 2018a, 11).

## 2.7. Tocharian

The Tocharian branch is attested from approximately the sixth to the eighth century C.E., in the form of two mutually unintelligible languages, standardly referred to as Tocharian A and Tocharian B (Penney 2017, 1298, 1301). Despite the lateness of its attestation, the Tocharian branch appears to be remarkably conservative where its verbal morphology is concerned and thus deserves a section of its own. Such features as the comparative rarity of thematic verbs (Lundquist and Yates 2018, 2361), a number of distinctive lexical isoglosses (Ringe et al. 2002, 99; Ringe 2017, 66) and possibly also the absence of a fully sigmatic aorist (Jasanoff 2003, 221) have a distinctly archaic appearance, and have prompted many scholars

**Figure 9. The conjugation of Optative reflex grams in Tocharian A**

	<i>Optative active</i>	<i>Optative middle</i>
1 <sup>st</sup> person singular	yāmim	kālpimār
2 <sup>nd</sup> person singular	yāmit	kālpitār
3 <sup>rd</sup> person singular	yāmiṣ	kālpitār
1 <sup>st</sup> person plural	yāmimäs	kālpimtār
2 <sup>nd</sup> person plural	<i>unattested</i>	<i>unattested</i>
3 <sup>rd</sup> person plural	klyošiñc	kālpintār

	<i>Imperfect of “to be”</i>	<i>Imperfect of “to go”</i>
1 <sup>st</sup> person singular	ṣem	yem
2 <sup>nd</sup> person singular	ṣet	yet
3 <sup>rd</sup> person singular	ṣeṣ	yeṣ
1 <sup>st</sup> person plural	ṣemäs	<i>unattested</i>
2 <sup>nd</sup> person plural	<i>unattested</i>	<i>unattested</i>
3 <sup>rd</sup> person plural	ṣeñc	yeñc

Based on Malzahn (2010, 253, 351)

to conclude that Tocharian was in fact one of the earliest branches to leave the ancestral PIE dialect union (see section 5.1.).

The Tocharian branch is no less interesting where the reconstruction of the optative is concerned. Only one form of the Optative suffix is preserved in productive grammatical functions – the zero grade athematic *-ī-* < \**-ih<sub>1</sub>-*, which is used with the subjunctive stem to form the synchronic Tocharian Optative, and with the present stem of most verbs to create an innovative Imperfect (Pinault 2017, 1345; Malzahn 2010, 252, 346). Note that the Tocharian subjunctive stem is synchronically unrelated to the PIE Subjunctive, which had been lost by the Proto-Tocharian stage. What is synchronically referred to as the “subjunctive stem” was recreated in Tocharian based on a number of present stem formations (Malzahn 2012, 239).

The imperfects of the two irregular verbs *nes-/nas-* “to be” and *i-* “to go” show an aberrant paradigm. The attested variation in the root vocalism of these forms – *-e-* in Tocharian A, \**-ai-/ey-* in Tocharian B – implies a Proto-Tocharian suffix \**-æy-*. This form may be interpreted as the reflex of full grade \**-yeh<sub>1</sub>-*, augmented with the zero grade form \**-ih<sub>1</sub>-* – that is, \**-æy-* as if from PIE †*-yeh<sub>1</sub>-ih<sub>1</sub>-* – an extension which can be motivated from the fact that the zero grade had been generalised in all other paradigms (Malzahn 2010, 256). If this etymology is correct, Tocharian also preserves evidence for a full grade athematic optative suffix.

In Tocharian B (though not in Tocharian A), both the Optative and Preterite took an allomorph *-oy-*, rather than *-ī-*, when the verb stem (subjunctive or present, respectively) ended in a long *-ā*. Despite its superficial resemblance to the thematic optative suffix, this allomorph probably results from the regular phonological development of the combination of root-final *-ā* with the modal suffix *-ī-* (Malzahn 2010, 346, 349). The assumption that Tocharian A once did the same explains the lack of palatalization in verbs of the subjunctive

stem class V: the regular modal suffix *-ī-* was analogically substituted too late for palatalization to be operative (Malzahn 2010, 352).

The sporadic lack of palatalisation in front of the modal suffix in the Tocharian B imperfect has been adduced as evidence that the Tocharian optative morpheme is a reflex of *both* the athematic optative *-ī-* and the thematic optative *-oy-*, as the latter would not have caused palatalisation. However, the distribution of the palatalised forms unequivocally disconfirms this hypothesis: stem classes that are originally thematic do not show a particular propensity for non-palatalised forms. In fact, the operation of palatalisation is absent almost exclusively from Imperfects built on Class III and Class IV present stems, which are athematic in origin (Malzahn 2010, 352, 257). As a consequence, most researchers have concluded that Tocharian does not attest a thematic optative, and may never have had one, instead building thematic optatives by adding the modal suffix to a stem stripped of its theme vowel (Jasanoff 2009, 62; Ringe 2006, 31).<sup>11</sup>

Figure 9 summarises some of the conjugation patterns attested for the Tocharian A Subjunctive and Imperfect.

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<sup>11</sup> The same explanation has been adduced for the lack of palatalisation in the Tocharian A subjunctive. However, *-ī-* is not the expected reflex of a PIE form *\*-oy-* or *\*-o-ih<sub>1</sub>-* in Tocharian A (Hackstein 2017, 1315).

### 3. The Optative from a functional perspective

Having reviewed the formal reflexes of the PIE Optative in the previous chapter, the chapter that follows focuses instead on the function of the Optative in the Indo-European daughter branches. Throughout, an attempt is made to bridge the historic divide between classical philology and modern linguistic typology by clearly aligning the terminology used in both fields. The focus in this section will lie on the Greek Optative, of which a thorough and theoretically informed study already exists in the recent monography by Willmott (2007), but where patterns of use in other Indo-European branches differ these are duly to be taken into account.

#### 3.1. The methodology of functional comparison

The fact that theoretically informed approaches to modality are largely absent from the theoretical literature on Indo-European literature has remarked upon in the past (Lundquist and Yates 2018, 2144). This becomes swiftly obvious when one attempts to achieve an overall picture of the use of the Optative in PIE. Even the most recent overviews of PIE morphology tend to limit themselves to delineating the category in the very broadest terms, as does Fortson (2010, 90), for instance, who describes the Optative as expressing “wishes and various other non-factual modalities”. To make matters worse, almost all the available grammars of the oldest attested Indo-European languages confine themselves to a strongly traditional analysis of verb moods (see section 3.2.), thus glossing over some of the finer – but by no means trivial – distinctions made by contemporary researchers of modality.

Yet, as emphasised in the introduction to this thesis, careful attention to function is important if we are to achieve a complete picture of the evolution of a modal category such as the Indo-European Optative. In fact, it is generally held that even establishing simple cognacy is invalid unless the semantic evolution required is plausible (Bynon 1977, 62). Naturally, this does not undermine any of the research done on the formal history of the Optative: implicit to all such discussions is a general agreement that the functions of the Greek Optative and the Sanskrit Optative are at least similar enough to be plausibly cognate. It is likely that past research was also influenced by the consideration that the rewards of a detailed examination of functional evolution were likely to be constrained by the as yet limited extent of our knowledge of what is possible or likely in the evolution of modality itself.

This section proposes to remedy this lacuna in past research by examining the most relevant comparative evidence for the *use* of Optative reflex grams. While the previous chapter, treating of the *form* of the Optative in the daughter branches, focused on every individual branch in turn, here the oldest Indo-European languages will be considered in their totality. This has advantage both of eliminating much redundancy in the discussion, and of highlighting the similarities and differences in use. Naturally, the differences are equally important as, if not more important than, the similarities: it is important to bear in mind that mere cognacy does not necessarily imply that the two categories are functionally identical in synchronic terms – an assumption sometimes referred to by semasiologists as the “etymological fallacy” (Stubbs 2001, 172) – and the fact that these languages are considered together in what follows does not imply that *differences* in Optative modal usage might not be relevant for the reconstruction of the ancestral category as well.

The lack of up-to-date material on modality in the Indo-European languages necessarily constrains the extent to which this chapter can provide a complete picture of the functions of Optative reflex grams in the daughter branches. Undertaking a philological study of a sample of the attested data from each early Indo-European language, performed along the standardised parameters provided by modern research on modality, though very much a research desideratum, is beyond the scope of this thesis. To make the best of use of the available literature, the following section (3.2.) gives an overview of the attested functions based on traditionally oriented grammars and philological work, while sections 3.3. and 3.4. attempts to reformulate these conclusions within a typologically informed terminological framework based largely on relatively recent work done on Homeric and Attic Greek.

### 3.2. Traditional grammatical analyses in Indo-Iranian and Greek

The two Indo-European branches which attest the PIE Optative, with its full range of allomorphs, and as a modal category distinct from a preserved PIE Subjunctive, are the Indo-Iranian branch and the Greek branch. The functions of the Optative in Vedic Sanskrit may be summarised as follows (this overview is based on Dahl 2010, 230; Gotō 2017, 362; Whitney 1889, 215, 219; Tichy 2006):

- The Optative serves to express of *wish* or *volition*, or a state of affairs that the speaker wishes to present as desirable. Whitney (1889, 215) argues that this function is the “primary office” of the mood on the basis of the fact that it occurs most frequently in this function in the oldest texts. It is this sense in which the precative forms are usually used. More recent research by Tichy (2006, 319) reverses this ordering and derives the optative function from the potential function instead.
- The Optative expresses *potentiality*, or a state of affairs of which the realisation is contingent on a separate state of affairs obtaining.
- The Optative can be used in the *prescriptive* sense, as a softened form of the imperative. Negated – with the particle *ná* – it functions as a *prohibitive*.
- The Optative is also used in subordinate clauses in a number of functions, including the expression of *condition*. In early Vedic the use of the Optative in such functions is not fully grammaticalised, as the Optative appears to be interchangeable with the Indicative and the Subjunctive.

These uses are similar to those attested for the Avestan Optative: Hoffmann and Forsman (2004, 178) cite “potentiality” and “wish” as its principal functions.

The functions of the Greek Optative are closely aligned with the above. However, an additional dimension of complexity is added to the syntax of the Greek Optative by the appearance of the modal particle *ἄν*. A possible link with the use of modal particles in Hittite has been proposed in the literature (Romagno 2015, 436), although etymologically, at least, the Greek particle is likely to derive from a zero grade equivalent of *κεν* which was reanalysed as vowel-initial after the negation (thus *οὐ κεν* > *οὐκ ἄν*) (Beekes 2010, 97). At any rate, the use of the particle is certainly a later development internal to the Greek branch. Not only is its appearance unique to that branch, the late stages of its grammaticalisation can be observed still in process: in Homer, the use of *ἄν* with the potential is still optional, which is no longer the case in Classical Attic (Smyth and Messing 1956, 407). This indicates that for comparative purposes, the presence or absence of the modal particle is not relevant and may



aspect. In Vedic Sanskrit the aspectual difference has eroded somewhat but García Ramón argues that traces of its existence can be discerned (García Ramón 2012, 84).

### 3.3. Descriptive frameworks in modern typology

The approach to language description taken in recent research on modality differs in several respects from the traditional grammatical approaches, of which the application to the Optative in the Greek and Indo-Iranian branches was briefly outlined in the previous section. Underlying the overall paradigm shift is the fundamental insight, central to the framework of grammaticalisation theory, that the constellation of functions synchronically associated with a gram results from its diachronic development, and can only be understood in the light of that development. Whereas traditional semasiological analysis had a tendency in to search for synchronic, structural explanations for every attested functional contrast, formulated in terms of an overarching “general” meaning that was common to all attested functions (Willmott 2007, 21–24), a proper appreciation of the role of diachrony in shaping the function of grams clearly indicates that this endeavour is misguided. Grams are constantly developing new meanings from old meanings over time. That process is inherently messy and gradual. It is empirically evident that grams do not evolve from one neatly demarcated use to another, nor do they do so in perfect structural synchrony with other grams. It follows that it is fruitless to search for such regularity in their synchronic structure.

This insight leads naturally to a new and more productive line of inquiry. Rather than trying to identify the Optative structurally in relation to the Subjunctive or the Imperative, or – worse still – attempting to distil a general Optative meaning from the lowest common denominator of all its uses, the Optative can be viewed as a grammatical entity of which the meanings have accrued over time through an organic process of grammaticalisation. This brings with it a wholly new set of questions. How did the particular constellation of meanings expressed by the Optative gram come about? What are the historical relationships connecting synchronically attested functions? Which functions are likely to be older functions that have given rise to other, secondary functions over time?

Hand in hand with the realisation that grams are fundamentally shaped through their diachrony comes an emphasis on rooting the terminology and the models used in the description of grams in typological concepts, rather than in abstract, aprioristic notions. An example is the traditional subdivision of the modal domain into “deontic” and “epistemic” modality, a categorisation which ultimately derives from formal logic (De Haan 2011, 452–53). Observed grammaticalisation processes routinely violate the boundaries between the two (De Haan 2006, 29). In fact, even demarcating the domain of modality itself has proved difficult, as modal grams frequently cover a range of functions that stretch far beyond the usual definitions of modality (Bybee et al. 1994, 176). The prototypical instantiations of modality may be characterised as referring to “the grammaticisation of speaker’s (subjective) attitudes and opinions” (mentioned by Bybee et al., 1994, 176) or “the relationship of an utterance with reality” (Pitts 2018, 41), and encompass such notions as *possibility*, *necessity* and *conditionality*. However, the outer boundaries of the concept of modality should be defined by observed diachronic patterns, rather than by any preconceived notions of what this semantic domain should or should not encompass.

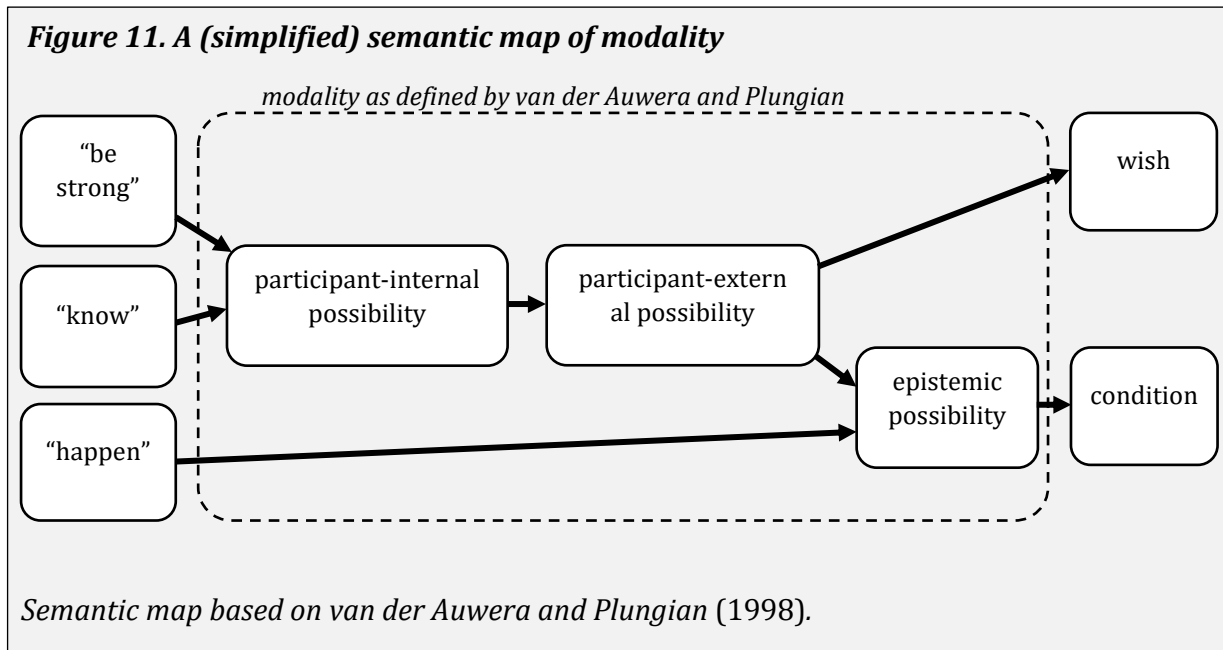
Bybee et al. (1994, 177–81) propose an influential terminology which subdivides modality into four typologically motivated categories. They use the term *agent-oriented modality* for grams that express situations of which the completion is dependent on the agent of the main predicate, such as *necessity* or *ability* (“I must catch the bus at nine o’clock”). Conversely, *speaker-oriented modality* refers to those cases where the conditions for the fulfilment of the situation are imposed by the speaker himself, as is the case for *imperative* or *optative* functions. The term *epistemic modality* is restricted to grams which indicate the speaker’s intellectual commitment to the veracity of an utterance. These three categories are kept distinct from the use of grams in *subordinate clauses*, which Bybee et al. regard as a fourth, and distinct category. This ties in with the empirical observation, frequently emphasised in recent research, that grams or lexemes do not grammaticalise as isolated entities, but in the context of specific constructions (Bybee 2003, 102–3; Krug 2011, 557). Thus, it would be a mistake to regard the use of a gram in subordinating clauses simply as an instantiation of its uses with a main predicate, just in a more limited syntactic context (Willmott 2007, 25).

A stricter demarcation of modality is proposed by van der Auwera and Plungian (1998), who limit the domain of modality to those meanings which are organised along a basic opposition between *necessity* and *possibility*, whilst also discussing a large number of constructions and grams which they describe as “premodal” or “postmodal”, depending on whether they grammaticalise to, or from, modal grams. Van der Auwera and Plungian identify three principal levels on which their central modal opposition operates. They use the terms *participant-internal modality* – where the necessity-possibility opposition consists in factors internal to the speaker himself (e.g. “I *can* speak English) – *participant-external modality* – where the necessity-possibility opposition consists in factors external to the speaker (e.g. you *can* take the bus at nine o’clock) – and *epistemic modality* – where the necessity-possibility opposition exists in the judgement of the speaker (e.g. I *might* take the bus at nine o’clock). A fourth level, *deontic modality* – in which the possibility or necessity is determined by desirability or by social norms (e.g. you *should* take the bus at nine o’clock) – they regard as subsumed under participant-external modality, since such norms are inherently imposed by entities external to the speaker himself. This framework is too limited to describe the Indo-European Optative completely (as it does not regard volition as a modal function to begin with), but the insights into the direction of grammaticalisation provided by van der Auwera and Plungian have broader potential applicability.

An influential model in the synchronic description of grams, following logically from the insights suggested above, is the so-called *semantic map model*. This model is a way of visually representing the relationships between different semantic functions. In the classical version of the model, an example of which is shown in figure 11, different meanings are treated as nodes on a graph, which are connected by an edge if, and only if, there is at least one attested language which expresses them as a single gram. The semantic map model has the methodological advantage over many traditional descriptive models of being purely typological in nature. No *a priori* decisions on the demarcation of functional domains are required, since the categorisation of meanings and the identification of affinities between meanings is dependent purely on the distinctions and connections made by documented natural languages (Haspelmath 2003, 216–17).

The power of the semantic map model lies in the fact that it can make predictions about the kind of data one should observe and the kind of data one should not. From a synchronic perspective, the model predicts that any given gram should occupy a contiguous area on the

map. Thus the semantic map shown as figure 11 entails that it is impossible for any gram in any language to express participant-internal and epistemic modality, but not participant-external modality, because that would require covering a non-contiguous area of the graph. Unlike many traditional frameworks, therefore, the semantic map is a scientific model in the strict sense of the word: it visually represents a coherent set of hypotheses which can be falsified (or improved) by the discovery or documentation of a gram which conflicts with the map's hypothesised configuration of conceptual space.



The conceptual justification of the semantic map is based, again, on the centrality of diachrony. The *reason* that the model works at all – the reason why it is the case that grams consistently occupy a contiguous area in conceptual space as demarcated by an empirically sound semantic map – is due to the fact that adjacent meanings are diachronically derived from each other. Since these derivations tend not to be bidirectional, a further layer of meaning – and thus predictive power – can be integrated into the semantic map by visually representing the *directionality* of the changes involved as well. Figure 11 does this through the use of arrows. In this way, the prediction suggested in the previous paragraph is given a straightforward rational justification: the reason grams expressing participant-internal and epistemic modality but not participant-external do not occur (or would falsify the map if they did) is because the map supposes that a gram expressing participant-internal modality must first acquire the function of participant-external modality before it can come to express epistemic modality. In some cases, it is possible to formulate further hypotheses on the underlying reasons for the attested directionality: for instance, the fact that volitive functions occur late may be reflective of a tendency for morphemes to acquire meanings which increasingly relate to the perspective of the speaker (in this case the speaker's personal desire), a phenomenon known as “subjectification” (Beijering 2011, 124–25).

It is impossible to directly translate traditional grammatical descriptions of the Optative in Indo-European languages into the terms of van der Auwera and Plungian, given that there is (obviously) no one-to-one correspondence between typological terms and their predecessors in the classical grammatical tradition. In order to present an application of van

der Auwera and Plungian’s semantic map on the Indo-European Optative, I focus on the Greek Optative, for which recent theoretically informed studies exist. The identification of the relevant categories is based on the functions cited in the monograph by Willmott (2007), and a shorter study by Drummen (2013), both of which make extensive reference to the terminology used in recent typological studies on modality.

Epistemic possibility – probably the most prototypical meaning subsumed under what is traditionally referred to as “potentiality” – and volition are well-established uses of the Greek optative. Willmott concludes that potentiality in main clauses is the most common use of the gram in Homeric Greek by a considerable margin (Willmott 2007, 214–16). In addition to these categories, the semantic map reproduced as figure 11 demands a number of finer distinctions as well. Thus, the domain of “potentiality” includes not only epistemic possibility, but also what van der Auwera and Plungian would call participant-internal possibility, as illustrated by [1] (from Euripides, *Andromache*, vv. 595–596):

[1] οὐδ’ ἂν εἰ βούλοιτό τις / σῶφρων γένοιτο Σπαρτιατίδων κόρη

A Spartan woman could not become chaste, even if she wanted to.<sup>12</sup>

Participant-external possibility is also attested as a function of the Greek Optative, as shown in sentence [2] (Sophocles, *Antigone*, v. 552). Note that this is in accordance with the prediction of the semantic map shown as figure 11, that any gram used with both participant-internal and deontic functions should also be used to express participant-external modality.

[2] τί δῆτ’ ἂν ἀλλὰ νῦν σ’ ἔτ’ ὠφελοῖμ’ ἐγώ;

Is there any way in which I can still help you?

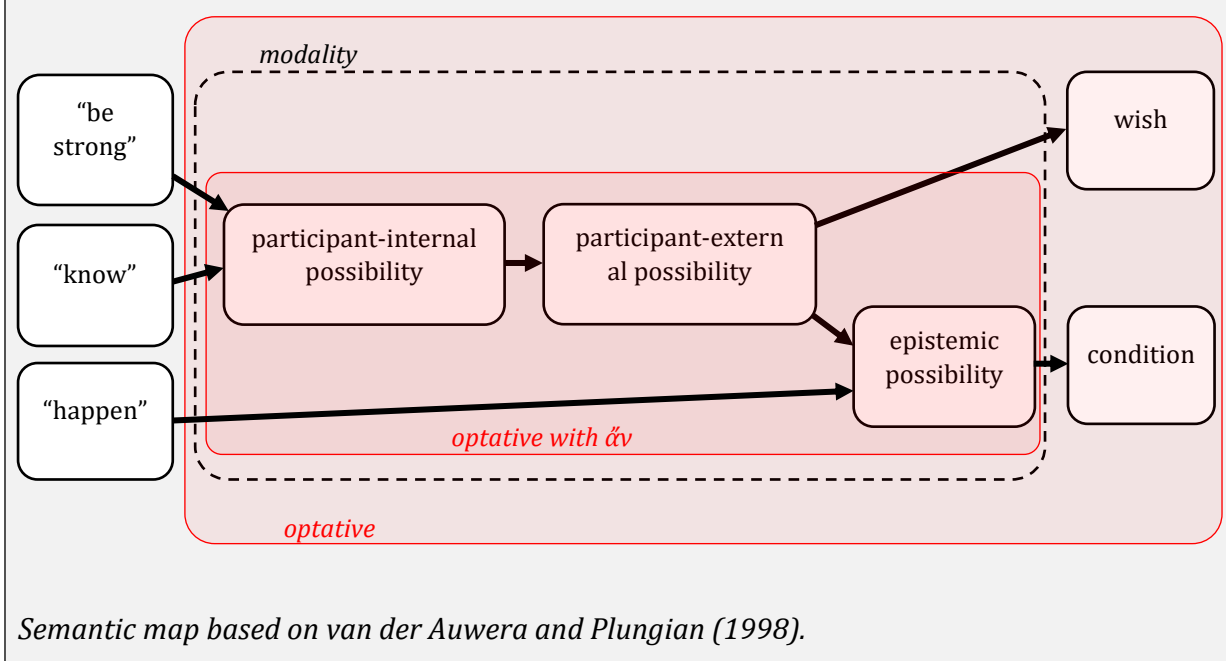
In addition to these functions, the Optative has a number of “subjunctive” uses, which, as emphasised above, cannot simply be equated with its uses in main clauses, due to the context-dependent nature of the grammaticalisation process. The main functions, enumerated by Willmott (2007) for Homeric Greek, include its use in conditional clauses and in purpose clauses. Although for the sake of clarity these uses have not all been incorporated onto the semantic map, the conceptual space they occupy certainly lies to the right-hand, *more* grammaticalised side of the map. As Bybee et al. (1994) emphasise, the uses of grams in subordinate clauses have a strong cross-linguistic tendency to occur late on grammaticalisation clines (Bybee et al. 1994, 213).

Putting these meanings together gives the functions shown on figure 12. Note that on this map, it is not only the optative itself, but also the specific construction of the optative with ἂν, that occupies a contiguous area on the map. Thus the data from Classical and Homeric Greek appear to verify the subdivision of modal conceptual space proposed by van der Auwera and Plungian (1998). In later sections of this thesis, the implications of these grammaticalisation paths for the functional analysis of the PIE ancestor will be taken into further consideration.

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<sup>12</sup> Translations my own. The illustrative examples in question are referred to by Drummen (2013, 81, footnotes 2, 3).

**Figure 12. Greek Optative usage in terms of a cross-linguistic semantic map**



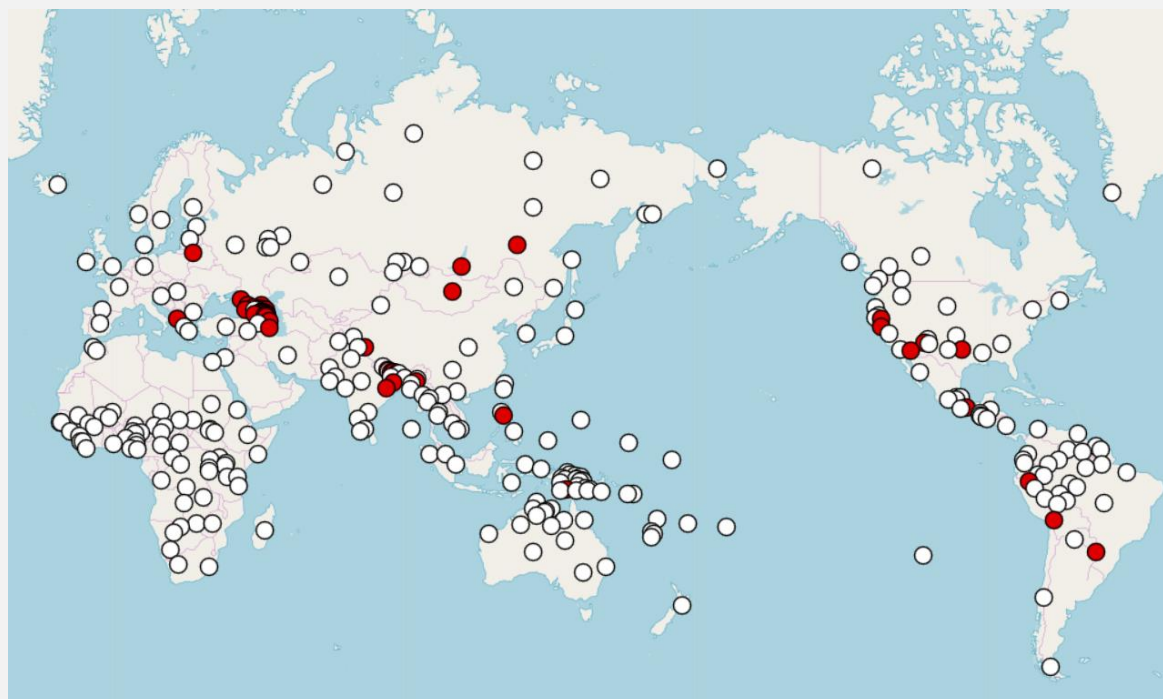
### 3.4. The grammaticalisation of the Optative and the pitfalls of terminology

As the example of the application of the semantic map model to the Greek Optative in the previous chapter indicated, the cross-linguistic research that has been done into the use of modal grams in modern languages has interesting potential applications for our understanding of similar grams in ancient languages. In accordance with the Uniformitarian Hypothesis, which states that research into languages spoken in the past can be constrained by our knowledge of processes that are operative in languages spoken today (Ringe et al. 2002, 60–61), we may assume that conclusions based on the diachrony of modern grams are also applicable to the diachronic change we can only observe through the indirect medium of the comparative method. Naturally, this provides a potential window into the nature of the PIE Optative that mere formal reconstruction could not supply.

However, the application of modern empirical data to an ancient gram presupposes at least a certain degree of equivalence between the terminology used in the two fields. It would be tempting, for instance, to attempt to apply the conclusions drawn in the modern literature on the usual diachronic origin of grams that instantiate the “optative” gram type to the oldest attested grams in the Indo-European languages. However, the term “optative” has been used to refer to a number of distinct gram types, and there is no necessary reason why the semantic paths either to or from these gram types should be the same. Thus the use of typological insights in Indo-European linguistics requires a certain degree of preliminary terminological clarification. How is the term “optative” defined in modern typology? And how, if at all, does the Indo-European Optative fit into this terminology? Put differently, if a modern fieldworker were documenting an early Indo-European language for the first time, unhampered by the prejudices of an existing descriptive tradition, what terminology would she use to express the gram in question?

An illuminating case of a possibly erroneous result obtained through inadequately taking into account the polysemous nature of the term “optative” is Matasović (2012). This research

**Figure 13. The global distribution of the optative**



*Red circles signify languages with a dedicated optative gram; white circles signify languages without such a gram.*

Source: <https://wals.info/feature/73A#4/38.78/225.15>

article is doubly interesting in the context of this thesis as it also (indirectly) suggests a possible diachronic origin for the PIE Optative. Specifically, Matasović argues that a number of typological features of PIE, including the presence of the Optative, can be explained through areal contacts with the Caucasus, thus providing additional corroboration for the emerging consensus view that PIE was spoken in the Pontic-Caspian Steppe (Fortson 2010, 46). Of the contact features Matasović proposes, not all are persuasive to begin with, and some depend on controversial reconstructions of PIE. But the apparent presence of the optative gram type in both PIE and many Caucasian languages is certainly a striking areal feature. As seen in figure 13 (also reproduced by Matasović), outside of a few hotspots, including the Caucasian linguistic area, the optative is extremely rare. Figure 13 probably understates the rarity of the optative gram, since the authors of this chapter of WALS deliberately chose to include as many optative grams as possible, rather than attempting to create a representative sample of its cross-linguistic frequency (Dobrushina 2011).

Taken in conjunction with the observation that the presence or absence of inflectional volitional moods appears to be sensitive to contact effects (Dobrushina 2017), this observation may suggest the hypothesis that the Indo-European Optative originated under the influence of, and perhaps along similar grammaticalisation paths as, well-attested Caucasian optative grams. In theory it is even possible that the morpheme was borrowed directly. As stated in section 2.3., it is well understood that in situations of sufficiently heavy contact, elements at any level of the language structure can be borrowed (Thomason 2003, 695).

Of course, the assumption behind all this is that the term “optative” in Indo-European studies and the term “optative” in typological work on the Caucasian languages describe the same gram type. When one examines the Caucasian data more closely, however, it becomes swiftly apparent that this analysis glosses over important facts. Take, for instance, the following example of a typical Caucasian optative, from the Daghestanian language Chechen, as cited by Dobrushina (2011):

[3] c'a:	d-alara	ħa(n)
house	III-be.OPT	you.SG.GEN

“If only you had a house of your own!”

The resemblance with the PIE category is certainly present, in the sense that both categories *can* express wishes of this type. But the Chechnyan Optative expresses *only* such wishes, without accompanying modal uses (Dobrushina 2011). This is not analogous to the situation in early Indo-European languages, where the Optative has range of functions, including the volitional use but extending – as was seen in the two previous sections – also to such functions as the expression of participant-internal, participant-external and epistemic possibility.

A similar conclusion presents itself when one examines the criteria used by WALS to determine whether or not a gram was regarded as an optative and incorporated in the map. These criteria require that the gram in question be a “dedicated inflectional optative form”, and that where a gram combines multiple functions (such as optative and potential) “the wish must be the main function”.<sup>13</sup> By the strict application of this criterion PIE did not have an optative in the typological sense of the word, as the most recent analyses (such as Willmott [2007] and Tichy [2006]) give no reason to assume that the voluntative uses of the Indo-European Optative were more salient than the potential uses. It is difficult to avoid the impression that the insistence of some earlier grammars that the optative use was the primary function of the mood (cf. Whitney 1889, 215) is due at least in part to preconceptions born of the terminological choices made by the classical descriptive tradition. The same terminological confusion has been remarked upon elsewhere: De Haan points out that in some languages, such as Athabaskan, what is known as the Optative is in fact more similar to grams such as the Latin Subjunctive, implying that the label “Optative” is not strictly accurate (De Haan 2006, 35). Although De Haan does not apply his reservations to the older Proto-Indo-European languages, the attested functions of the Optative outlined in the previous sections do suggest that if the nomenclature of the early Indo-European languages had been performed, from a clean slate, by a typologically informed fieldworker, she would probably choose for a term such as *potential* or even *irrealis*.

The relevance of the literature on the grammaticalisation of the optative gram type is further complicated by the fact that what is referred to as the “optative” gram type may in fact encompass two very distinct gram types. This argument is made by Dobrushina (2011) based on an analysis of the Daghestanian languages in the Northern Caucasus. She concludes that most of the dedicated optative grams in these languages are best characterised as *performative* optatives, which are “used to bless or to curse”, unlike *desiderative* optatives which simply express the wish of the speaker (Dobrushina 2011). This, too, has potential implications for the relevance of the existing literature on the origin of voluntative modalities,

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<sup>13</sup> <https://wals.info/chapter/73>

since the two gram types are unlikely to share the same diachronic origin. Although it appears that the desiderative optative (the gram type instantiated by the Chechen Optative in *alara*) is often expressed by irrealis or conditional grams – and in that regard might come close to the PIE Optative gram – this gram type is exceedingly rare, *even* in the Caucasus. Most Caucasian Optatives are of the performative type, which does not lend itself well to potential uses at all – it is closer to the jussive or the imperative, and is thus conceptually even further removed from the Indo-European Optative (Dobrushina 2011).

To return to the hypothesis proposed by Matasović, therefore, not only is the rarity of the optative gram type on the WALS map the result of implementing a strict definition which specifically *excludes* the gram type instantiated by the early Indo-European Optative, the vast majority of attested Caucasian optatives appear to be of a type that is distinctly dissimilar to the Indo-European gram in question. Naturally, one is always free to assume that the Caucasian situation was different six thousand years ago: considering the rate of semantic evolution that seems very likely anyway. But such an assumption would undermine the reason for postulating the link in the first place. Matasović rightly cautions that areal affinities between PIE and the Caucasus should only be based on typological features of which the antiquity can reasonably be assumed (Matasović 2012, 292). It is the current typological map for the global distribution of the optative gram type as defined within modern typology that shows the remarkable areal bias towards the Caucasus and the two or three other regions on figure 13. Aside from this areal pattern there is no necessary reason to link the PIE Optative with its supposed Caucasian counterparts.

Naturally, it would be beyond the scope of this thesis to engage in original research on the crosslinguistic diachrony of the optative mood. I cite the cautionary tale of Caucasian contact influences mainly to emphasise the cardinal importance of not blindly transferring terminology from general linguistic theory to Indo-European philology. To assume, for instance, that the PIE Optative must originate from a source similar to the performative Akhvakh Optative – which derives, according to Dobrushina (2011) from the reanalysis of a construction whereby the speaker enjoins an addressee to pass a command on to a third party (e.g. “tell him ‘go!’”) – would be erroneous, as the point of resemblance between the two categories is very limited.

The loss to the research focus of this thesis is minor. A survey of the existing literature indicates that, due the rarity of such grams, very little can be said on the general patterns whereby specialised optative grams grammaticalise anyway (Padilla-Moyano 2018, 696; Sadock and Zwicky 1985, 164). Fortunately, the volutative meaning of the Optative can be placed in the context of its other attested meanings through the use of the semantic map model as described in the previous section. The question is then, no longer simply how volutative uses tend to emerge, but how the constellation of functions attested for the PIE Optative might have emerged. Since the volitional function lies on the extreme right edge of van der Auwera and Plungian’s grammaticalisation cline, the focus of attention should explicitly *not* be on this function, but rather on such domains as potentiality or participant-external modality – those areas which lie on the left-hand, more lexical, less grammaticalised side of the semantic map and might therefore plausibly have given rise to functions further to its right.

Several examples of possible lexical source constructions for the functions expressed by the Indo-European Optative are cited by Bybee et al. (1994). Some illustrative examples were

shown on figure 11, but other attested sources for participant-internal modality include lexical items meaning “to arrive at”, “to reach,” “to become”, “to take” or “to obtain” (Bybee et al. 1994, 188). Assuming that the semantic map in question is robust – and subsequent research has appeared to corroborate it (cf. Beijering 2011) – it is in this domain that plausible antecedent categories for the Indo-European Optative should be sought. And even if the semantic map presented by Auwera and Plungian were to be falsified, the potential meaning is much more likely to be ancestral to the volitional uses than the reverse even in sheer statistical terms, considering the extreme cross-linguistic rarity of the latter category remarked upon above.

## 4. The reconstructed Proto-Indo-European Optative and its origins

In this chapter, the branch-specific *comparanda* which were analysed in the previous chapters form the basis for the reconstruction of a putative PIE (or PNIE) parent category. First, the external, comparative reconstruction of the Optative mood is undertaken, based on the data amassed in the previous chapters. Subsequently, the plausibility of some of the scenarios which have been proposed for the earlier prehistory of the optative are taken into consideration and are placed in the context of a theoretically informed modal diachrony.

### 4.1. The formal reconstruction of the late PIE Optative

A PIE modal gram such as the Optative was distinguished in the parent language by a constellation of formal properties. To understand the PIE exponents of this category, therefore, it is not sufficient merely to reconstruct the modal suffix itself. In addition to the suffix, a gram could be characterised by its choice of endings – primary, secondary, or (in the case of the Imperative) a distinctive set of endings of its own – and by the grammatically conditioned interaction of apophony and accent in its conjugated forms. Furthermore, the shape of a gram exponent could in principle vary depending on the conjugation of the verb it was formed to: an example is the PIE Subjunctive, which was characterised by a long-vowel mood sign in the thematic conjugation and a short-vowel mood sign in the athematic conjugation (Sihler 1995, 593). Since any of these characteristics could, in principle, be secondarily effaced by analogy, reconstructing the PIE optative is not a straightforward task.

The basic shape of the athematic optative modal is established by the recurrence of an apophonic pattern of the type  $-y\check{V}/-i-$  in multiple branches (e.g. Greek  $-ιη/-ι-$ , Avestan  $-yā/-ī-$ , Latin  $-iē/-ī-$ ). In the late nineteenth century, these observations led Brugmann to reconstruct an optative modal suffix  $*-yē/-i-$  (Brugmann 1892, 1299). During the last century, the insights of laryngeal theory have allowed this apparently aberrant pattern to be aligned with well-understood morphophonological process. PIE made prolific use of  $\check{V}/\emptyset$  apophony, most commonly of the pattern  $e/\emptyset$  or  $o/\emptyset$  (Beekes 2011, 120): the former is now understood to have underlain the Optative suffix. Where the suffix stood in the  $e$ -grade, the (short)  $e$  was regularly lengthened by a laryngeal that followed, and the  $-y-$  appears as a consonant. Where the suffix was zero grade, the  $-y-$  was adjacent to both the root-final consonant and the laryngeal, and thus surfaces as a vowel – as PIE syllabification rules require (Fortson 2010, 71) – which was then lengthened by the laryngeal. The laryngeal in question subsequently disappeared in all relevant language families (Weiss 2009, 39–43).

The specific laryngeal involved (and the colour of the suffix's full-grade vocalism) is established by reflexes such as the Latin *siēd*, which can only go back to the Lindeman variant  $*-iyeh_1-$ . In the Italic branch  $*h_2$  would have coloured the vowel to  $\bar{a}$  and  $*h_3$  to  $\bar{o}$  (Weiss 2009, 39–40). A similar conclusion can be drawn from the Greek forms, where the characteristic vowel of the apophonically “strong” forms (cf. εἴην [eyēn] from PIE  $*h_1s-yeh_1-m$ ) is η [ē], rather than  $\bar{a}$  or ω. These observations have led to a general consensus in the scientific literature that the shape of the athematic Optative suffix was  $*-yeh_1/-ih_1-$  (Willi 2018, 10; Jasanoff 2009, 47; Lundquist and Yates 2018, 2147; Clackson 2007, 136; Fortson 2010, 106; Beekes 2011, 275; Rix 1986, 20; Strunk 1984, 144).

Branches as diverse as Greek, Indo-Iranian and Italic agree on assigning their respective Optative reflex grams secondary, rather than primary, personal endings (thus using reflexes of *\*-m*, *\*-s*, *\*-t*, etc. rather than *\*-mi*, *\*-si*, *\*-ti*, etc.). It is highly unlikely that all these branches should without exception have innovated in this regard, so the use of secondary endings with the Optative can safely be attributed to PIE also (Clackson 2007, 123; Lundquist and Yates 2018, 2147). The main point of interest in the reconstruction of the endings is the fact that the full grade third person plural *\*-ent* seems to appear even where it does not carry the accent – as in the thematic conjugation, with Greek forms such as  $\varphi\acute{\epsilon}\rho\omicron\iota\epsilon\nu$  < PIE *\*b<sup>h</sup>er-o-ih<sub>1</sub>-ent*, and Gothic *wileina* < PIE *\*wél-ih<sub>1</sub>-ent*. Although these forms could also be explained as analogical, it is possible that this is a distributional peculiarity of the optative (Jasanoff 2009, 50–52; Pinault 2015, 181).

The apophonic patterns of the Optative are most straightforwardly reconstructible for regular hysterokinetic root presents such as *\*h<sub>1</sub>es-* “to be”. The zero grade of the root appears in various branches, and since the zero grade is recessive in many languages (cf. Jasanoff 1991, 104; Bammesberger 1982, 284), being in the process of being replaced by the more morphophonologically transparent full grade, it is as good as certain that this feature is ancestral. In addition, both the Greek and the Italic branches preserve a pattern whereby the singular forms preserve a full grade reflex of the modal suffix, while the plural forms (and dual forms, where they exist) preserve a zero grade reflex. This, too, is very unlikely to be secondary, particularly in Italic, where there is nothing to indicate that such an apophonic pattern might ever have been productive.

The Indo-Iranian generalisation of the full grade reflex to the active dual and plural – and the retention of the zero grade modal by the middle – is then clearly secondary: it has a logical branch-internal motivation (the paradigmatic levelling of the active endings) and is paralleled by other comparable changes in the same branch, such as the similar pattern in the aorist indicative and injunctive (Kümmel 2018, 1906). The Indo-Iranian branch does, however, appear to preserve an older accentuation pattern, with the accent on the modal suffix in the full grade and on the endings in the weak forms (Gotō 2017, 361–62). As was pointed out in section 2.4., reconstructing this pattern for PIE allows the interaction between ablaut and accent in the athematic optative to be aligned with recurrent patterns in PIE morphophonology (Lundquist and Yates 2018, 2133). Other branches are less informative where the accent is concerned: Attic Greek verb accent is recessive by default (Bubenik 2017, 652), and in the Italic languages word accent has shifted to an invariant word-initial position (Nishimura 2014, 186).

Assuming that the morphophonological pattern of the hysterokinetic Optative stems – whereby the root takes the apophonic weak grade of the indicative – is regular, it is possible to formulate predictions as to how one would expect this pattern to surface elsewhere. Narten presents, for instance, should form their Optative based on the weak *ě*-grade form (as opposed to the strong lengthened *ē*-grade form): if Jasanoff (1991, 101) is right to identify the Italic *i*-subjunctive of *velim* as a Narten present this would constitute possible evidence for such a formation. Since the accent of such verbs is invariably on the root, rather than on the endings or the suffix, we would expect, by the regular rules of PIE morphophonology, to find an invariant *\*-ih<sub>1</sub>-*. The same would apply to other characterised present formations, such as the reduplicated present, where – if this formation is correctly reconstructed with an invariant accent on the reduplicating syllable (Ringe 2006, 40) – we expect a zero grade root and an invariant *\*-ih<sub>1</sub>-*. There is, however, not a great deal of attested evidence for these

**Figure 14. The root apophony of the aorist optative – select comparanda**

		full grade suffix -yeh <sub>1</sub> -		zero grade suffix -ih <sub>1</sub> -	
		Active	Middle	Active	Middle
full grade root CeC-	1 <sup>sg</sup>	dheyām <sup>Ved</sup>			
	2 <sup>sg</sup>				
	3 <sup>sg</sup>	dāiiāt <sup>Av</sup>		vainīt <sup>Av</sup>	
	1 <sup>pl</sup>	stheyāmā <sup>Ved</sup>		zaēmā <sup>Av</sup>	
	2 <sup>pl</sup>				
	3 <sup>pl</sup>				
zero grade root CC-	1 <sup>sg</sup>	gamyám <sup>Ved</sup>			θεί-μην <sup>Gk</sup>
	2 <sup>sg</sup>	θείης <sup>Gk</sup>			
	3 <sup>sg</sup>	diiāt <sup>Av</sup>		cyme <sup>OE</sup>	dviṣ-ī-tá <sup>Ved</sup>
	1 <sup>pl</sup>	ṛdhyāma <sup>Ved</sup>		θεῖ-μεν <sup>Gk</sup>	
	2 <sup>pl</sup>				
	3 <sup>pl</sup>			cymen <sup>OE</sup>	

formations: in Greek and Indo-Iranian, where they are attested, the optative formation seems to have been regularised from the root optative (cf. Sanskrit *juhuyām*). Note that LIV reconstructs athematic reduplicated presents as hysterokinetic, which would allow the apophony of the modal suffix to be inherited (Rix 2001, 16)

Indo-Iranian showed strong vocalism in dual and first and second persons plural of the root aorist indicative (Kümmel 2018, 1906). The antiquity of this distinction in the PIE indicative is established by the correspondence between Greek ἔβην and Sanskrit *ágāma* (both from PIE *\*e-g<sup>w</sup>eh<sub>2</sub>-me*) on the one hand and Greek ἔβαν and Sanskrit *agúr* (< *\*agan*, both from PIE *\*e-g<sup>w</sup>h<sub>2</sub>-ent*) on the other (Pinault 2015, 168; cf. Rix 2001, 209–10). It is possible, if not likely, that this pattern extended to the root aorist optative as well. The question of the apophonic grade of the root itself, however, is considerably more complex and various views on the subject have been expressed in the relevant literature. The difficulty stems largely from the wide range of attested forms and the apparent apophony of the preforms which they presuppose. Figure 14 gives a number of illustrative forms: the roots in this overview are ordered by the apophony of the PIE preforms they would presuppose, if these preforms were reconstructed mechanistically, without taking possible analogical levellings into account.

Based on forms such as these, Hoffmann (1975) made the argument that the full grade of the root aorist optative was in fact regular. This idea was expanded on by Kellens (1984, 362–63), who argues that the oldest layer of root aorist optatives has the invariant structure *\*CeC-ih<sub>1</sub>-m*. A second layer of renewal gave forms with zero-grade root and full-grade suffix, presumably by analogy with the same pattern in the hysterokinetic root present. Finally – in Avestan only (Pinault 2015, 167), – the full grade was analogically renewed (to give forms of the type *dāiiāt*).

Jasanoff (1991, 104) criticises this solution on two grounds. Firstly, it fails to explain the paucity of evidence for singular forms with a full grade root relative to the preponderance of plural forms: the only assured singular form from Kellens' oldest layer is *vainīt*, which makes for a pretty slender evidence base. Secondly, and more seriously, it requires a number of

**Figure 15. The origin of an aberrant root aorist optative, proposed by Jasanoff (1991)**

	Pre-PIE	PIE	(aorist indicative)
1 <sup>sg</sup>	$d^h h_1 - y\acute{e} h_1 - m$	$d^h h_1 - yeh_1 - m$	$d^h \acute{e} h_1 - m$
2 <sup>sg</sup>	$d^h h_1 - y\acute{e} h_1 - s$	$d^h h_1 - yeh_1 - s$	$d^h \acute{e} h_1 - s$
3 <sup>sg</sup>	$d^h h_1 - y\acute{e} h_1 - t$	$d^h h_1 - yeh_1 - t$	$d^h \acute{e} h_1 - t$
1 <sup>pl</sup>	$d^h h_1 - ih_1 - m\acute{e}$	$d^h e h_1 - ih_1 - me$	$d^h \acute{e} h_1 - me$
2 <sup>pl</sup>	$d^h h_1 - ih_1 - t\acute{e}$	$d^h e h_1 - ih_1 - te$	$d^h \acute{e} h_1 - te$
3 <sup>pl</sup>	$d^h h_1 - ih_1 - \acute{e}nt$	$d^h h_1 - ih_1 - \acute{e}nt$	$d^h h_1 - \acute{e}nt$

implausible analogical reorganisations. In particular, it is very unlikely that singular forms with a full-grade root would have secondarily taken a zero-grade root in a branch where this apophonic grade was very much in decline. In addition, it complicates the development Jasanoff wishes to assume for laryngeal-final root optatives such as *dhēyám* (see figure 3 in section 2.4.): a full-grade root would have given *dhét* (< PIE \**d<sup>h</sup>eh<sub>1</sub>-ih<sub>1</sub>-t*), for instance, while a zero-grade root would supply *dhiyat* (< PIE \**d<sup>h</sup>h<sub>1</sub>-yéh<sub>1</sub>-t*), a form which appears much more likely to be remodelled as *dhēyám*.

Jasanoff instead suggests that root aorists were once declined in the same way as root presents, with an invariant zero-grade of the root, an accentuated full grade modal suffix in the singular and a zero grade modal with accentuated endings in the plural (the regular “hysterokinetic” paradigm). This was subsequently contaminated by the introduction of the full grade root into the first and second person plural forms specifically, by analogy with the *indicative*, where the pattern “third person zero grade root, first and second persons full grade root” was regular (Jasanoff 1991, 106–7), as shown in figure 15. The anomalous presence of the zero grade in Avestan forms such as *vainīť* Jasanoff explains on the basis of the fact that these forms in fact do not correspond to root aorists at all, but are suppletive formations to sigmatic aorists (Jasanoff 1991, 105).

Jasanoff’s solution is, in turn, criticised by Pinault (2015, 169), who points out that it conveniently presupposes a maximally irregular paradigm, containing three of the four possible permutations of root and modal suffix apophony, which is then regularised in a number of different ways to give the attested reflexes. Although this is a justified criticism from a methodological point of view – insofar as the less regular the ancestral paradigm is, the harder it is to falsify hypotheses about its subsequent development – Pinault’s characterisation of Jasanoff’s postulated pattern as “totalement aberrant” is exaggerated. Jasanoff’s proposed apophony originates from the regular hysterokinetic pattern of the present stem aorist (\**CC-yeh<sub>1</sub>-/\*CC-ih<sub>1</sub>-*) and requires only a single, reasonably well motivated analogy once this original pattern is granted. It remains, however, difficult to prove or disprove.

It is difficult to see a way to an objective resolution to the problem of the root apophony in the aorist optative. One might argue that it is unnecessary even to attempt to a decision in favour of any particular solution. The ancestral state of the PIE language was not perfectly homogeneous – any more than modern languages are – nor does the successful application of the comparative method require such a situation of homogeneity to have existed: it is possible that the rules governing aorist root apophony differed within the parent language itself. At any rate, it is clear that the later operation of analogy has effaced much data that is essential for the purposes of reconstruction.

Although the reflexes attested in most branches are equally compatible with the reconstruction  $*-oy-$ , most scholars have interpreted the thematic optative as the athematic zero grade suffix  $*-ih_1-$  preceded by the  $o$ -grade thematic vowel  $*-o-$  (Lundquist and Yates 2018, 2147; Beekes 2011, 275; Jasanoff 2009, 47). A dissenting opinion is expressed by Sihler, who adduces two principal arguments against this view. Firstly, most languages do not preserve evidence for the presence of a laryngeal, despite the fact that we would expect a vocalic reflex ( $*-oy-h_1-$ ). Secondly, nominal derivations use an invariant  $e$ -grade thematic vowel, rather than the  $o$ -grade theme vowel which would need to be reconstructed for the Optative, and there is no obvious reason to expect verbal derivations to do otherwise (Sihler 1995, 596).

Naturally, the strength of the latter objection depends on the actual morphophonological rules which governed the colour of the theme vowel. It is possible, as Jasanoff points out, that the colour of the theme vowel was in this case determined by the presence of hiatus, a view for which the formally identical dual ending  $*-o-ih_1-$  may provide further evidence (Jasanoff 2009, 61). The lack of laryngeal reflex, on the other hand, finds a simple solution in the proposal that the presence of a morpheme boundary between the theme vowel  $*-o-$  and the athematic suffix  $*-ih_1-$  prevented the ordinary rules of PIE syllabification from taking effect (Jasanoff 2009, 60–2). This allows the suffix to be reconstructed as  $*-o-ī < *-oih_1-$ , rather than  $*-oyh_1-$ . This fact immediately dispenses with the need to suppose analogical regularisations in the Greek and Sanskrit paradigms, as  $*-oī-$  would not have been a diphthong (as discussed in sections 2.4. and 2.5.), and it would explain why the Balto-Slavic evidence appears to presuppose a disyllabic optative (as discussed in section 2.6.). Although these solutions to Sihler's objections are not fully decisive, the parsimony of an approach which can derive the optative from is such that the analysis of the ancestral suffix as  $*-o-ih_1-$  is extremely likely.

It should be noted that, if this is true, Cowgill's phonological solution for the Italic  $\bar{a}$ -Subjunctive no longer works, as it depends on the vocalic laryngeal in  $oyh_1$  to give the reflex  $oy\bar{a} > o\bar{a} > \bar{a}$ . This difficulty could, in theory, be resolved by assuming different syllabifications of the thematic optative in different PIE dialect areas, but such a solution is too unparsimonious to be allowable. It is more likely that Cowgill's derivation is erroneous. Since it assumes an *ad hoc* contraction, and would make the Italic branch the only Indo-European branch to inherit a laryngeal reflex in the thematic optative, the solution had fairly little going for it to begin with.

Finally, Pinault (2015) advances the somewhat unorthodox proposal that the Optative suffix should be reconstructed with an initial laryngeal, as athematic  $*-h_1yeh_1-/-h_1ih_1-$  and thematic  $*o-h_1ih_1$ . The main formal advantages of this approach lie in the fact that it allows the Greek *ey*-optative to be explained without analogy (as the *e* would simply be the reflex of a vocalic laryngeal) and that it avoids the syllabification problem for the thematic conjugation (as the laryngeal would regularly leave a hiatus). Against this stands the fact that in the overwhelming majority of cases, the laryngeal needs to have disappeared without reflex. Pinault explains this as a consequence of what is known as *Pinault's Law* (Pinault 1982), a phonological development which caused the loss of laryngeals between a consonant and  $*y$  (thus  $h_x > \emptyset/C_y$ ). However, more recent researchers have argued that Pinault's Law did not apply to  $*h_1$  (Byrd 2015, 236) or that it only applied in certain branches (Verhasselt 2014,

**Figure 16. The exponents of the PIE Optative**

	present stem	Narten stem	reduplicated
1 <sup>st</sup> person singular	<i>CC-yéh<sub>1</sub>-m</i>	<i>CéC-ih<sub>1</sub>-m</i>	<i>Cí-CC-ih<sub>1</sub>-m</i>
2 <sup>nd</sup> person singular	<i>CC-yéh<sub>1</sub>-s</i>	<i>CéC-ih<sub>1</sub>-s</i>	<i>Cí-CC-ih<sub>1</sub>-s</i>
3 <sup>rd</sup> person singular	<i>CC-yéh<sub>1</sub>-t</i>	<i>CéC-ih<sub>1</sub>-t</i>	<i>Cí-CC-ih<sub>1</sub>-t</i>
1 <sup>st</sup> person plural	<i>CC-ih<sub>1</sub>-mé</i>	<i>CéC-ih<sub>1</sub>-me</i>	<i>Cí-CC-ih<sub>1</sub>-me</i>
2 <sup>nd</sup> person plural	<i>CC-ih<sub>1</sub>-té</i>	<i>CéC-ih<sub>1</sub>-te</i>	<i>Cí-CC-ih<sub>1</sub>-te</i>
3 <sup>rd</sup> person plural	<i>CC-ih<sub>1</sub>-ént</i>	<i>CéC-ih<sub>1</sub>-ent</i>	<i>Cí-CC-ih<sub>1</sub>-ent</i>

37). In any case, postulating an additional laryngeal on the grounds of a few isolated patterns which have other plausible explanations is not a solution which commends itself in terms of parsimony. As stated previously, Pinault’s proposal derives its legitimacy mainly in the context of his attempt to derive the modal *\*-h<sub>1</sub>yeh<sub>1</sub>-* from a verbal root of that shape, which will be assessed in section 4.3.

An overview of some illustrative reconstructed optative paradigms is provided in figure 16. The dual is omitted from the overview, as the dual personal endings are hard to reconstruct (Lundquist and Yates 2018, 2150). We may assume their apophonic patterns were aligned with the plural.

#### 4.2. The typology of functional change

The reconstruction of function is at least implicit in most traditional formal reconstruction, where the presence of a plausible semantic correspondence is generally considered a prerequisite for a sound etymology (Bynon 1977, 62). However, the methodology used to reconstruct the meaning of the ancestral morpheme has generally been somewhat indeterminate. Two lines of approach in particular are regularly encountered in the scientific literature. The first approach reconstructs for the ancestral morpheme those elements of meaning which are common to all its daughter branches. This is based on the consideration that if two separate branches share a function, they are more likely to have inherited that function than to have acquired it by independent development. The second methodology posits for the ancestral morpheme a broad, generalised meaning which could plausibly underlie the constellation of functions found in the daughter grams (Rankin 2003, 196).

Both of these approaches are problematic in their own way. The problem with ascribing to the ancestral gram only those semantic nuances which all the daughter grams share is that such a methodology has no way of taking loss of function into account: the ancestral gram is simply reconstructed as the lowest common denominator of attested grams, regardless of whether this gives a synchronically plausible range of meaning. On the other hand, the problem with postulating a schematised meaning for the ancestral gram is that such a reconstruction flatly contradicts empirical observations. Morphemes tend to become *more* polysemous over time, not less: in fact, this concept is an integral insight of grammaticalisation theory, which posits that much semantic evolution is best characterised as a process of “semantic bleaching” or “semantic erosion” (Lehmann 2015, 136).

Grammaticalisation theory offers a more principled way of formulating hypotheses on the past history of a gram’s function. Rather than blindly extrapolating characteristics of attested grams back in time, we can attempt to situate the attested grams within the context of what

is known about the usual grammaticalisation paths taken by such grams and extrapolate backwards. In the previous chapter, a semantic map was presented of some common developments of grams with similar meanings to the Indo-European Optative, based on van der Auwera and Plungian (1998), and a number of a possible sources for such constructions were discussed. If the Indo-European Optative can be fitted into this framework, it will be possible to formulate hypotheses on the nature of the PIE Optative which follow from the semantic map in question. How well the semantic map describes the diachronic facts must be inferred from closer examination of the attested development of the Optative reflex grams in the Indo-European branches.

The later development of the Greek Optative, for instance, appears to fit well onto the topology of the semantic map presented in section 3.3. As was noted previously, Willmott's analysis of Homeric Greek identifies the potential use in main clauses as the most common function of the optative in the earliest texts (Willmott 2007, 214–16). It is also the potential function – which one may equate with the *modal* functions of the optative in the strict sense in which van der Auwera and Plungian (1998) use the term – which is the first to disappear in the post-classical period, whereas the wish persists (Evans 2003, 71). By the time of the New Testament the volitional use is the dominant function of the Optative (Boyer 1988, 130; D. B. Wallace 1996) and in the Septuagint overwhelmingly so, though this may be the result of Semitic influence (George 2010, 271). These observations could be conceptualised as a right-ward move on the semantic map, with the loss of categories to the left-hand side and a shift of the gram's functional centre of gravity to the postmodal uses. In addition, as stated previously, the most recent philological research into the Indo-Iranian Optative sees the volitional as a conventionalised implicature of the potential (Tichy (Kümmel 2018, 1905), which suggests that the postmodal uses are themselves an extension of an originally exclusively potential gram.

The observed developments are, therefore, broadly in line with what recent research on the directionality of modal semantic evolution suggests. This implies that a reconstruction of the function of the PIE Optative should take into account possible movement along this same grammaticalisation path in the more distant past: it is inconceivable that the meaning of the Optative should have remained static for the thousands of years preceding our documentary evidence, only to start changing as soon as this evidence becomes available. Thus, we expect the older functions of the Optative gram to have lain on the left-hand side of the grammaticalisation cline, with such features as participant-external or participant-internal modality being more salient functions of the ancestral PIE gram. In fact, it is possible for separate language branches to independently complete the incipient grammaticalisation of a construction in the ancestral language (a process of independent convergence sometimes known as “Sapirian drift”), implying that the ancestral gram could potentially look very different from the “lowest common denominator” of the uses attested for its daughters: an unrelated example cited by Robbeets and Cuyckens is the Tibeto-Birman family, where languages in several branches have independently grammaticalised a patient-marking argument from an original dative or locative case (Robbeets and Cuyckens 2013, 12). If this is the case for PIE, it is conceivable that such basic uses as volition or epistemic possibility could have been absent from the gram's functional domain as it existed in the oldest stages of the parent language, or even that the gram was absent in its totality and existed only in the form of a lexical precursor or a partially grammaticalised auxiliary.

### 4.3. Grammaticalisation and the prehistory of the Optative

The process of internal comparison is based on the assumption that synchronic irregularities can be derived from processes that were once productive in the past, of which the regular operation has been obscured by later processes (Rix 1986, 6). Perhaps the most celebrated application of internal reconstruction in the field of historical linguistics is that of Saussure (1986), who postulated the existence of two (later revised to three) lost sounds, which he referred to as *coefficients sonantiques*, in order to align various morphophonological anomalies in the attested Indo-European languages. Saussure's reconstruction was empirically vindicated by Kuryłowicz' observation that in many lexemes, the newly discovered Hittite language had the sound *h* exactly where Saussure would have predicted the existence of a laryngeal (Pinault 2013, 26).

The explanatory power of laryngeal theory is so great that any conception of PIE without it today verges on the unthinkable. That is not to say, however, that all other attempts at internal reconstruction have been equally successful. In general terms, one may identify two pernicious tendencies in internal linguistic reconstruction, lying at the opposite ends of a conceptual spectrum: on the one hand, the refusal to engage in any kind of reconstruction at all and thus allowing redundant categories to proliferate (which would, in the case of laryngeal theory, lead to an excessive number of apophonic templates), and on the other hand, the attempt to infer more from the data than these data will in fact properly allow, creating an excessively simplistic, even reductionist, account of the PIE language (for instance, arguing that *all* cases of apparent PIE *\*a* can be reduced to the effects of laryngeal colouration [Pinault 2013, 27]).

A similar set of conflicting tendencies can be observed in the reconstruction of morphological categories. As was argued in the introduction to this thesis, it would be methodologically inadequate to assume that grammatical categories simply proliferate as one goes back in time, both from a theoretical and an empirical point of view. On the other hand, it is certainly true that grams can persist diachronically for extraordinarily long periods of time, so it is inevitable that in many cases the origin of grams should lie too deep in the past for any method of linguistic reconstruction to infer. The question of the grammaticalisation of the Optative is not a case where either of these hypotheses commands an *a priori* theoretical preference. While bearing firmly in mind the possibility that the Optative could be a recent development, one should be equally suspicious, therefore, of attempts to derive categories from lexical sources unless the tell-tale signs of a recent grammaticalisation process can be observed. The hypothesis that the origins of the Optative are simply no longer reconstructible is equally valid.

The kind of overuse of internal reconstruction which attempts to reduce all grams to underlying concatenations of simpler morphemes has sometimes been pejoratively referred to as *glottogonische Spekulation* ("glottogonic speculation") (Rix 1986, 7). Such ideas were common in a time when it was still thought that internal reconstruction could provide a window into the evolution of the human language faculty itself – a notion which went hand in hand with the tendency to regard all subsequent evolution as a process of degeneration from an ancestral purity (Rumsey 1987, 298; Haspelmath 2011, 343). This assumption is now known to be incorrect. It is estimated that a modern-like language capacity is at least 90,000 years old based on mitochondrial divergence (Tallerman and Gibson 2012, 31) and at least 70,000 years old based on the archaeological evidence for human behavioural modernity

(Wynn 2012, 292), both dates far too remote, considering the relatively high speed of language change, for any traces of the birth of the human language faculty to be observable in the few thousand years that have elapsed since PIE and its immediate antecedents. It is important to emphasise, therefore, that from our perspective PIE can safely be regarded as a language like any modern language, privileged only with the benefit of hindsight by the historical circumstance of the wide geographical expansion of its daughter branches. As Pulgram put it in 1959:

Proto-Indo-European is but a point, or a duration, in a continuity as old as human speech, a continuity in which we insert, for reasons of convenience and definition, arbitrary boundaries. (Pulgram 1959, 425)

An illustrative example of a typically reductionistic account of the Optative is that provided by Shields (1992, 115–20), who derives the modal suffix from a combination of sources. The original suffix in his view is the athematic *\*-ī-* – equivalent to the zero grade ending *\*-ih<sub>1</sub>-* reconstructed in section 4.1., although Shields does not use the laryngealistic notation – which, Shields claims, is a contraction of *\*-ei-*, itself the concatenation of two deictic particles *\*-e-* and *\*-i-*. This was augmented by the subjunctive *\*-ē-* (which Shields separately derives from the deictic particle *\*-e-* added to a theme vowel) to give the apparent long grade form.

It is not hard to find objections to this hypothesis. The mechanistic use of single-phoneme morphemes such *-e-* and *-i-* to build up more complex suffixes, is linguistically implausible and methodologically suspect. There is clear evidence for regular, morphologically conditioned apophony in the ablaut suffix, which by Shield’s hypothesis would be either a coincidence or the result of unrelated analogical effects, as his postulated weak grade of the suffix is not directly cognate to his reconstructed strong grade. The assumed semantic path for the development of the optative is not plausible – modality, unlike tense, is not a deictic category and thus has no clear reason to derive from deictic particles at all. There is no reason why an athematic suffix should be augmented with a mood sign that is characteristic of the thematic subjunctive. And last but not least, the PIE optative suffix quite definitely contained a laryngeal, for which Shields’ account has no explanation.

The question which must be asked before turning to specific hypotheses on the origin of the Optative, therefore, is what traces one might expect such a grammaticalisation process to leave. An example of one possible trace of such a process is proposed by Pinault (2015), who notes that some Indo-European branches provide traces for the use of the full grade third person plural ending *-ent* even where the regular rules of PIE accentuation and syllabification would have required *-nt* (see section 4.1). The argument is not wholly persuasive – in a number of daughter languages the reflexes of *\*-ent-* would have been more morphologically transparent than those of *\*-nt-*, and the analogical substitution of the latter is therefore not particularly surprising – but it remains an interesting hypothesis, as it accords with well observed grammaticalisation processes. The cliticisation of auxiliaries is a common process cross-linguistically, and represents the first step along the well described grammaticalisation path towards a bound morpheme (Lehmann 2015, 157): a similar process led, for instance, to the grammaticalisation of a synthetic future tense in French (*je chanterai*) from the combination of a Latin lexical verb with an infinitive (*cantare habeo*) (Heine and Kuteva 2004, 242–3). In addition, modal auxiliaries seem to originate from more lexical sources than morphemes signalling tense or aspect (Krug 2011, 557).

This theoretical possibility can be discussed, and even rendered plausible, independent of *specific* theories on how the modal suffix originated from the lexicon. It does occur sometimes that attested grams have a synchronically obvious source (such cases form part of the raw data for the cross-linguistic study of grammaticalisation paths undertaken by Bybee et al. [1994]), but no such explanation readily suggests itself for PIE, and all of the proposed theories, therefore, suffer from the immediate limitation of being essentially speculative. There are many reasons why a lexical source might be absent. Grammaticalised morphemes often undergo “phonetic erosion”, which may reduce much of their former substance as a lexical morpheme and make it harder to recognise them as regular reflexes of a cognate morpheme (Lehmann 2015, 134). It is not necessary for the source of the grammaticalisation path to remain in use as a lexical item at all when the grammaticalisation of a gram is complete – although this does frequently happen<sup>14</sup> – since any part of the language system can, in principle, be lost (Haspelmath 2004, 33). In addition, it is possible for relatively rare items to grammaticalise (Brems 2007, 294), of which the loss or substitution over subsequent centuries would not be surprising. Finally, it is possible that the morpheme in question does not originate from a process of grammaticalisation at all, instead resulting from the direct loan of a morpheme.

Considering these theoretical caveats, therefore, it is legitimate to demand a high burden of proof from proposed specific hypotheses on the lexical origin of the Optative. A number of features of some of the ideas that have been proposed makes them implausible from the outset. Thus any explanation which does not explain the presence of apophony can be discounted without further discussion: to attempt to redeem such hypotheses by proposing that the apophonic patterns are the result of secondary analogy is effectively impossible, as the morphophonology of the Optative is isolated in the verb system (see section 5.2.). This was one of the arguments that were adduced against Shields’ solution above. In addition, those explanations which strongly focus on the volitional function of the Optative as central to its grammaticalisation violate the probable directionality of the gram’s diachronic development. Bopp’s derivation of the suffix from a verb *-í-* meaning “to wish” (Bopp 1859, 560) is, therefore, unlikely, not only because such a gram would probably have given rise to a desiderative, rather than an optative, but also because such a specific voluntative gram would not have given rise to the broad range of potential functions we observe in the attested Optative grams.<sup>15</sup>

The hypothesis of nominal origin, which has been proposed in the literature (cf. examples given by Pinault 2015, 152–5) does not meet the facts well for formal reasons. There is no real evidence that such an origin would explain the attested apophonic patterns in the Optative. To observe merely that the nominal system possesses a similar grammatically conditioned variation between strong and weak apophonic grades (implied by Jasanoff 2009, 48–9) is to overlook the fact that this variation exists in a completely different grammatical context, and that there is no *a priori* reason to assume the system would simply be transferred from the one to the other. In fact, one finds a possible counter-example in the stative morpheme *\*-eh<sub>1</sub>-*, which is has been associated with the instrumental ending *\*-eh<sub>1</sub>* (Jasanoff

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<sup>14</sup> The phrase *going to*, perhaps the textbook example of grammaticalisation in English, is a case in point: although the verb *to go* has taken a grammatical meaning as a marker of future tense, it has not lost its lexical meaning as a verb of motion.

<sup>15</sup> A similar argument is made by Haudry (2017, 78), who makes reference to a putative PIE root *-yeh<sub>1</sub>-* “to ask for”. In addition to the objections cited above, it should be noted that LIV reconstructs this root with *h<sub>2</sub>* (Rix 2001, 310–311).

2002): the verbal form of this suffix shows no apophonic variation at all, despite the fact that the instrumental ending itself is securely attested in both the hysterokinetic full grade and the acrostatic zero grade (Kim 2018b, 163).

A more plausible, if highly speculative, attempt is that made by Pinault, who derives the Optative from the univerbation of a dative root noun with a verb meaning “to come” (Pinault 2015, 164). The hypothesis that a lexical verb with this meaning underlies the Optative fits well with its attested meaning, and Bybee et al. (1994) cite the lexical meaning “to arrive at” as a possible source of participant-internal possibility (Bybee et al. 1994, 190), from which all the attested posterior uses of the gram can be derived. The specific root Pinault proposes as the source of the grammaticalisation path is *\*h<sub>1</sub>yeh<sub>1</sub>-*, a root which produces no certain attested reflexes (it does not occur as such in LIV). As was noted in section 4.1., however, the extreme paucity of evidence for an initial laryngeal in the optative morpheme is suspect, and Pinault’s explanation for its absence is not persuasive. As Pinault himself notes, the absence of distraction in the Vedic thematic optative (which his view would derive from *-oh<sub>1</sub>ih<sub>1</sub>-*) could be regarded as positive evidence against his view (Pinault 2015, 189–190). Pinault’s explanation of this – the idea that speakers of Indo-Iranian placed the morpheme boundary before the theme vowel, rather than after it, and that distraction did not occur for this reason – does not tally with the evidence from other Indo-European branches (such as Greek and Balto-Slavic) which suggests precisely the opposite – that this morpheme boundary was strongly maintained, even at the expense of the regular rules of PIE syllabification.

Although Pinault’s specific identification of the lexical verb involved in the grammaticalisation of the Optative morpheme fails, therefore, to be persuasive, the identification of the consistent use of the third person plural ending *-ent* as reflective of an origin in a free modal auxiliary is not unarguable, if highly speculative. Even if this is the case, however, there is no necessary reason to believe that the lexical source of the grammaticalised construction should still be attainable through any reconstructive methodology. In this regard, it is salubrious to emphasise the many ways in which the attested Optative appears to have been a highly grammaticalised morpheme. Its antiquity is indicated by many of the criteria Lehmann (2015) proposes as diagnostic of grammaticalisation – the gram can be used with a wide range of verbs, it has limited syntactic scope<sup>16</sup>, and it covers a broad spectrum of non-lexical meanings, including meanings which, as noted in the previous chapter, lie reasonably far down the cline of modal grammaticalisation. These are, at the very least, indicative of a substantial prehistory, and in consideration of this fact the failure of the scholarly literature to agree on a plausible lexical source – or indeed, any conclusive signs of grammaticalisation from the lexicon – should not surprise.

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<sup>16</sup> It is not, for instance, possible to omit the modal particle in a coordinated verb, as a lexical exponent of wish, with scope over the whole phrase, would allow (e.g. English “I wish X and Y”)

## 5. The chronology of the Proto-Indo-European Optative

The relationship between the Optative and the prehistoric development of the PIE language can be gauged in several ways. This chapter systematically reviews the chronological position of the Optative, starting from the external evidence – the development of the optative in terms of the departure of Anatolian, Tocharian and other branches from the ancestral Indo-European dialect union – and moving on to various internal developments with which the optative stands in a chronological relationship, such as the productivity of PIE morphophonological patterns and the creation of the sigmatic aorist.

### 5.1. An external chronology of the Optative

The most straightforward way of drawing conclusions on the antiquity of a gram is to place it in the context of the diversification of the Indo-European language family as conceptualised by the traditional *family tree model*. If cognates of a gram can be traced to a particular node  $n$  in the family tree, but not to the node  $n^{+1}$  above it, one may assume it originated in a phase intermediate to  $n$  and  $n^{+1}$ . This is what one might term the *phylogenetic approach* to chronology and has an immediate analogue in the inference of biological trait histories in evolutionary phylogeny. The methodology is rationally defensible based on what is known as the principle of parsimony: a proposed phylogeny which assumes fewer changes in character state over time is more plausible than a competing history which assumes more changes (Felsenstein 2004, 78).

Naturally, such a methodology presupposes that one knows the topology of the family tree in question. Unfortunately, there is no consensus on the shape of the Indo-European family tree. As noted by Ringe et al. (2002), perhaps the most favourably cited study on the subject, the reason for this lack of consensus is the extreme paucity of probative isoglosses above the level of those branches that are universally accepted – such as Balto-Slavic and Indo-Iranian. Attempts to increase the dataset through applying computational phylogenetic analysis to lexical data, as attempted by Bouckaert et al. (2012), have not met with wide acceptance in the field. Nevertheless, for the purposes of this thesis it is worth noting the existence of a broad consensus that Anatolian was the first branch to split off from the common stock, and, the Tocharian languages probably the second (Jasanoff 2003, 204; Bouckaert et al. 2012, 959; Melchert 1998, 28; Ringe et al. 2002, 87; Pereltsvaig and Lewis 2015, 202; Watkins 2008, 953).

The evidence for this topology comes from several sources. The first concerns a number of lexical items, where Anatolian and Tocharian share what appears to be an archaic isogloss: an example is the verb “drink”, where Hittite and Tocharian use a lexeme derived from  $*\acute{e}h_2g^{wh}ti$ , whereas the other branches uses a reflex of  $*peh_3$  (Ringe et al. 2002, 99). Perhaps the most persuasive archaic isogloss Anatolian and Tocharian share against core Indo-European is the relative paucity of verbs of the thematic conjugation: Hittite attests no thematic aorists or underived thematic verb stems (Ringe et al. 2002, 97), while in Tocharian they are less common than in other branches (Lundquist and Yates 2018, 59). In addition, if Jasanoff’s view on the origin of the sigmatic aorist is correct, both Anatolian and Tocharian share a primitive precursor of what would, within core Indo-European, develop into a fully sigmatic category (Jasanoff 2003, 204). This view, however, remains highly controversial (see section 5.4.; cf. the dissenting opinion of Melchert [2015]).

Going from the premise that the Anatolian branch was, indeed, the first to split off from the ancestral stock, or the first language to leave the ancestral dialect union, the fact that the Anatolian branch lacks the Optative has the potential to gain enormously in significance. As has been argued in previous sections, however, there is no real way of deciding from the attested data whether or not the Anatolian branch ever had the Optative. The hypothesis that an ancient Optative was replaced by constructions with modal particle, perhaps under the influence of Akkadian (cf. Zorman 2016, 2017), and the hypothesis that the optative did not grammaticalise until a later stage of PIE both explain the facts equally well. Zorman (2016, 381) refers to Jasanoff (2003, 2009) in support of the former view, but in neither of these works does Jasanoff provide evidence for the prehistory of the Optative that is based on the evidence from the Anatolian branch specifically. It is doubtful if such evidence exists.

In favour of the latter view – that the Optative did not grammaticalise until *after* the Anatolian branch split off from the ancestral dialect union – one might note the absence of any reflex at all, even in vestigial forms or expressions, of the Optative gram. However, this is also the case in other Indo-European branches, such as Celtic, a branch which lacks any reflex of an Optative gram which its relatively recent ancestor (PNIE, or, if it existed, Proto-Italo-Celtic) most certainly possessed. In favour of the former view – that the Optative already existed in PIE and was replaced in the Anatolian branch – may be adduced the consideration that no obvious source construction for the grammaticalisation of this category is attested in Anatolian. But notwithstanding the confidence with which this argument is adduced by Rix (1986, 20), it is not very persuasive, considering that the Anatolian branch at time of first attestation had already undergone at least fifteen centuries of change since PIE and may well have lost a construction that was possibly still marginal at the time of the split. In fact, it is strikingly inconsistent that the scholars who adduce this argument should problematise the absence in Anatolian of a possibly lexical source construction while apparently seeing no difficulty in the complete disappearance of a frequently used inflected gram.

It is possible to make an argument that the absence of the Optative in PIE is precluded simply by the chronological distance between the “Indo-Hittite” node in the Indo-European family tree and the break-up of core Indo-European. As was argued in section 4.3., relative to comparable modal categories in modern Indo-European languages the PIE Optative appears in a fairly strongly grammaticalised form. If it is true, then, that the Optative originates from the univerbation of a modal auxiliary, it seems highly unlikely that it would have completed the complete trajectory from a lexical verb to a grammaticalised morpheme in the space of no more than a few centuries. The strength of this argument is very much attenuated by the widely recognised difficulties inherent in estimating the speed of language change generally and grammaticalisation in particular (Narrog and Heine 2011, 8), but in the absence of better evidence it may serve as a rough indication of the age of the gram in question.

The Tocharian branch attests an Optative, although it is too risky to attempt to draw any conclusions on its stage of grammaticalisation when the Tocharian branch split off from the PIE dialect union, some four thousand years before any attested documentation. Phylogenetic inferences from the formal status of the Optative in Tocharian, however, can be attempted. In particular, Jasanoff (2009, 62) draws attention to the absence of a thematic optative from this branch, where stem classes originating from the PIE thematic conjugation simply append the Optative modal suffix to the stem stripped of its theme vowel (see section 2.7.). The absence of the thematic optative, however, is more plausibly diagnostic of the age of the thematic conjugation – of which the incremental rise can be observed in its early stages in the Hittite

and Tocharian branches (Lundquist and Yates 2018, 2163) – rather than of the Optative gram itself.

Jasanoff's attempt to regard the absence of thematic reflexes in the Italic and Celtic branches as evidence that the formation of the thematic optative was limited to the “central” Indo-European branches (Jasanoff 2009, 62–3) is not very persuasive. To begin with, the view is wholly dependent on the accuracy of the hypothesis that the Italo-Celtic branch was the third branch to leave the PIE dialect union, after Hittite and Tocharian, a view which in its turn rests almost exclusively on a single morphological isogloss (the use of *-r* as the middle equivalent of the *hic et nunc* particle [Ringe et al. 2002, 101–2]). There is, however, a more serious issue of consistency: the fact that the Celtic branch does not preserve an athematic optative either, despite the fact that its immediate ancestor beyond a doubt had this category, makes it difficult to read significance into the absence of the thematic optative. As was indicated in section 2.6., it is even possible that the Italic branch preserves a reflex of the thematic optative.

## 5.2. *The chronology of apophony and morphophonological productivity*

As emphasised by Jasanoff (2009, 48–9), the morphophonological behaviour of the optative morpheme is unusual. No other verbal suffix in PIE shows quantitative apophony, including suffixes such as the nasal *-n-* or the *-s-* of sigmatic paradigms, elements which could quite conveniently have taken an allomorph *-en-* or *-es-*, respectively. Even the subjunctive suffix, the only other modal suffix in the verb system, consisting of the thematic vowel *-e/o-*, displays only qualitative (not quantitative) apophony. The significance of this datum can be interpreted in various ways. The morpheme could be regarded as the sole survivor of a layer of verbal inflection that is older than any other morpheme and thereby preserves a primordial pattern of apophony (Jasanoff 2009, 48–9). Alternatively, it could be regarded as an indication of the origin of the morpheme from a different paradigm where ablaut was regular, such as the nominal suffixes (Pinault 2015, 152).

To understand the implications of this observation, it is important to establish exactly what morphophonological processes were at work to create the accentual and apophonic behaviour of the Optative gram. In line with most recent work on Indo-European linguistics, the descriptive parts of this thesis have made use of terminology derived from what may be termed the *paradigmatic* approach to Indo-European accentuation, which distinguishes the accentual and apophonic properties of different lexemes by classifying them into a number of paradigms (such as the “hysterokinetic” paradigm). These models have a certain degree of descriptive convenience, but they have recently been criticised on the grounds that they lack typological plausibility. Although in itself, the relationship between apophony and accentuation suggested by the reconstructed data is plausible, modern tonal languages do not appear to organise lexemes into paradigms in this way (Kiparsky 2010, 140). Naturally, the significance of mere absence of evidence should not be overstated, considering that our understanding of the possible synchronic properties of languages is based on a relatively limited sample of well-documented languages. However, given the already severely constrained extent of our knowledge of reconstructed languages, it is reasonable to be suspicious of any proposal that does not line up with what is known about modern languages. As a consequence, some recent researchers have preferred the so-called *compositional approach* to PIE accentuation, which treats tone as a suprasegmental property of morphemes,

rather than of paradigms (Lundquist and Yates 2018, 2135–37; Byrd 2015, 37; Kiparsky 2010, 2018). Kiparsky (2010), for instance, proposes a way of deriving the morphophonological behaviour of PIE nouns from a limited number of productive rules applying to various combinations of morphemes.

The hysterokinetic behaviour of the Optative morpheme can also be explained as the result of the interaction of such rules. Kiparsky (2018, 2) regards the optative morpheme *-yeh<sub>1</sub>-* as lexically unaccented. The “strong” endings of the verb paradigm are preaccented, and thus place the lexical accent on the optative morpheme. The “weak” endings of the verb paradigm are accented themselves. The rule which, in Kiparsky’s view, governs the operation of apophony stipulates that an ablauting morpheme appears in the zero grade when followed by a lexically accented morpheme. This rule can operate across syllables as well, when the syllable in question contains a high vowel (*\*i/\*u*) (Kiparsky 2010, 145). This explains why the modal suffix surfaces in the zero grade before the accented strong endings, and why the root appears in the zero grade throughout the paradigm – it precedes the accented endings in the weak forms and the accented modal suffix in the strong forms.

This insight, if correct, allows a more precise description of the exact way in which the optative is exceptional. Unlike most verbal suffixes, which are *preaccented* (Kiparsky 2018, 2), the optative is *unaccented*. Explaining such a pattern is trivial if one proceeds from the observation that the same applied to lexical morphemes: their suprasegmental properties could define them either as underlyingly accented – which would cause the verb to conjugate in the manner that is traditionally described as acrostatic – or as underlyingly unaccented – which would give a hysterokinetic conjugation. If the grammaticalisation of the optative preceded from an unaccented, “hysterokinetic” lexical verb, therefore, the pattern of accentuation reconstructed for the PIE optative is entirely regular.

If this scenario is correct, the unresolved question of whether or not apophony was still productive in PIE (Kim 2018b, 167) becomes irrelevant. If it was not, the fact that the verb from which the suffix is derived displayed regular patterns of apophony would still lead us to expect apophony in the suffix which originated from it. This would give us no useful information on the age of the Optative gram. Even if the lexical origin of the Optative is rejected, however, it seems possible to argue – contrary to Jasanoff (2009) – that the morphophonological evidence suggests precisely the *recency* of the optative gram. It may be noteworthy that without exception, the branches which have generalised a single apophonic variant of the optative morpheme have generalised the zero grade (Tocharian, Germanic and Italic; see section 2.6.). If this is indicative of a broader diachronic trend, perhaps related to the cross-linguistic tendency of highly grammaticalised morphemes to undergo phonological erosion at a faster rate (Bybee 2007, 257, 2011, 70), it suggests that, unlike most other verbal morphemes, the optative has simply not had time to be reduced. However, once again, it must be emphasised that speculation of this nature cannot provide probative evidence for the antiquity or recency of the Optative gram, and caution must be exercised in drawing inferences from its results.

### 5.3. The chronology of the personal endings

Almost invariably, when an Indo-European branch has an Optative reflex gram it appears with secondary endings. Thus in Greek we find *θείης* rather than *†θείησι*, in the Italic

languages *siēd* and not †*siēt*, and so forth. This fact is particularly noteworthy when one considers that the Subjunctive, the other principal modal category in the parent language, probably took primary endings (Lundquist and Yates 2018, 2146; Fortson 2010, 105).<sup>17</sup> There is no obvious reason why this should be the case: the modal notions expressed by the Subjunctive (such as the prospective) and the Optative (such as potentiality or wish) *both* seem more applicable to non-past than to past tense .

As was stated in section 2.2., the terms “primary” and “secondary” are misleading in this context, as it is in fact the primary endings which are formed from the secondary endings by the addition of the particle *\*-i*, and for the middle – in some branches at least – *\*-r* (Lundquist and Yates 2018, 2140). The particle *\*-i* is found outside the verb system also, as in the Greek *vuví* (“now”): its overarching function appears to be that of a deictic particle referring to the “here and now” (hence the term “*hic et nunc* particle”) (Fortson 2010, 93). This suggests the existence of an earlier situation where verbs were not differentiated by tense, or, at least, where tense was not an obligatory part of the verb system. This possibility is rendered even more plausible by the fact that different branches disagree on which particle to use for the middle endings – the Italic, Celtic, Tocharian and Anatolian branches use *-r*, while Indo-Iranian and Greek have (probably secondarily) substituted *-i* (Ringe et al. 2002, 119). The fact that this substitution could take place at all indicates that in the relatively recent, but probably post-PIE past Indo-European speakers still regarded the deictic particles as an analysable morpheme within the personal desinence, and that the full grammaticalisation of the distinction between primary and secondary endings was subsequent to this reorganisation (Pinault 2013, 36). The relative recency of the *hic and nunc* specification could also explain why personal endings seem to violate the general tendency for PIE finite verbal forms to lack a lexical accent (implied by Hock 2012, 124).

The use of the secondary endings with the Optative gram could, therefore, be adduced as a signal of relative chronology: the Optative simply grammaticalised before the primary endings emerged (cf. Willmott 2007, 115). However, this conclusion is not inescapable. Even if one supposes that the emergence of the Optative gram *post*-dated the full grammaticalisation of the primary endings into unanalysable morphemes, the choice for the “past tense” endings in this context has a robustly attested, if somewhat counter-intuitive, semantic motivation. The relationship between preterite grams and non-realis moods is cross-linguistically frequent: the association between the two functions is thought to lie in the idea of remoteness, in that the past is removed from the present in much the same way that hypothetical or counterfactual situations are removed from reality. If the optative did originate from a secondary verb, therefore, it could be compared to an English modal auxiliary such as *would*, which also derives from a lexical verb in the past tense (De Haan 2006, 51, 2011, 461). Since the descriptive typological tendency underlying such developments is robust, it is not even out of the question that the optative once, in the past, took primary endings, but subsequently switched to secondary endings to emphasise the notion of uncertainty that was inherent to many of its modal uses.

Another possible indication of the chronological setting of the Optative mood is its relationship with the perfect stem endings. As was noted in section 2.2., the perfect stem in Indo-European takes an aberrant set of primary endings, with a first person singular in *\*-h<sub>2</sub>e*,

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<sup>17</sup> The imperative has its own set of endings and therefore gives us no useful information in this regard (Lundquist and Yates 2018, 2145–6).

which appear to be wholly unrelated to their present stem counterparts (which have a first singular ending in *\*-m/\*-mi*). Despite this anomaly, the perfect *optative* endings (where they are attested) nonetheless take the regular *m*-endings, rather than *h<sub>2</sub>e*-endings. The same pattern holds for the pluperfect endings (Jasanoff 2003, 34). Since there is, again, no intrinsic semantic contradiction in the combination of a resultative gram with a potential gram, all other things being equal this fact might suggest that the PIE Perfect is a more recent creation than the PIE Optative.

The history of the perfect tense in PIE is fraught with controversy. In particular, much debate has centred around the relationship between the core Indo-European perfect and the Anatolian *hi*-conjugation, which appears to pattern with the same set of endings – that is, a first singular reflex of *\*-h<sub>2</sub>e*, augmented in the present tense with the *hic et nunc* particle *-i*. Probably the two most influential hypotheses on the relationship between these categories are the so-called *Perfect Theory*, which derives the Anatolian *hi*-conjugation from a PIE perfect stem very similar to that preserved by the core Indo-European languages, and the *h<sub>2</sub>e-conjugation Theory*, which postulates that the core Indo-European perfect is a specialisation of a separate but isofunctional verb conjugation with a different set of endings. An influential recent monograph on the subject is Jasanoff (2003), which espouses the *h<sub>2</sub>e-conjugation* view. As a survey of recent publications on the subject indicates, the subject remains highly controversial, and, Jasanoff's *h<sub>2</sub>e-conjugation* theory has garnered both approval (Kim 2005, 198) and criticism (cf. Kloekhorst 2018). Even in the absence of consensus, however, it may be noted that both views have implications for the chronology of the Optative, insofar as a view which posits a perfect aspect stem for the pre-Anatolian PIE verb would appear, by the reasoning in the previous paragraph, to establish the existence of a PIE Optative also.

Of particular interest to the Optative itself is Jasanoff's view that the Vedic optative ending *-ur* stems from the aorist *h<sub>2</sub>e-conjugation* optative (of which *-yur* < PIE *\*ih<sub>1</sub>-rs* would be the regular reflex), and that it preserves evidence for an optative paradigm which originally took *h<sub>2</sub>e*-endings. If this hypothesis is correct, this too would suggest a relatively high age for the Optative morpheme, as the Optative would then have to predate the clear tendency within the core Indo-European languages (including Tocharian) to eliminate *h<sub>2</sub>e*-ending paradigms in favour of *m*-ending paradigms. This consideration is strengthened further still if one accepts the derivation of the modal suffix *\*-yeh<sub>1</sub>-/-ih<sub>1</sub>-* from a lexical verb, as argued by Pinault (2015). Following the *h<sub>2</sub>e-conjugation* theory, the lexical verb in question would have to have taken either *m*-endings or *h<sub>2</sub>e*-endings, not both; assuming that the verb used *m*-endings, the use of *h<sub>2</sub>e*-endings in the perfect optative, although an archaism relative to those branches where the *h<sub>2</sub>e*-endings are broadly recessive, would therefore be an innovation relative to the pre-PIE optative auxiliary. In such a scenario the Optative would have to be of sufficient antiquity that the optative endings were associated primarily with the verb stem to which the modal suffix was attached, and not with the modal suffix itself as a grammaticalised verb. However, there is no consensus on this point either, and most other scholars regard the Vedic ending in question as the result of secondary substitution (Pinault 2015, 151; Fortson 2010, 107).

#### 5.4. The chronology of verb stem formation

In the attested branches of Indo-European, the Optative is generally formed to the aspect stems, rather than to the simple, underived root. Thus in Greek, for instance, a derived present such as τίθημι forms a present optative τιθείη, in distinction to the root aorist optative θεΐη (see section 2.5.). There are, however, some possible indications that this was not always the case, and the behaviour of the Optative gram in this regard has the potential to offer clues on its prehistory.

In reality, the reconstructed Optative is surprisingly limited in its ability to choose aspect stems depending on its lexical aspect. In Vedic it is mainly formed to underived stems (Sihler 1995, 591) and in Homeric Greek it is almost invariably limited to a single stem, of which the choice is determined by lexical aspect (García Ramón 2012, 84). In Tocharian, the optative is not formed to aspect stems either: instead it is built to the (innovative) subjunctive stem (Pinault 2013, 23). As emphasised by Sihler, there is no *a priori* reason why this should be the case. A hypothetical or a wish could, in theory, just as easily carry the regular aspectual distinctions between the present, aorist or perfect stem as a simple assertion. In fact, we find exactly such a situation in English, where it is perfectly grammatical to distinguish between, for instance, “she might read” and “she might be reading”. Given that there is no contradiction inherent in the simultaneous expression of modality and aspect, the reconstructed situation for PIE requires a further explanation.

As stated in section 2.2., our reconstructed material appears to preserve a tendency whereby telic verbs form a root aorist and a derived present, whereas atelic verbs form a root present and a derived aorist (Lundquist and Yates 2018, 2138). It has often been hypothesised that this observation is diachronically significant. At an earlier point in time, pre-Proto-Indo-European may not have had a grammaticalised contrast between the aspect stems at all. When the grammatical aspect of a verb in use clashed with its lexical aspect, a derived formation could be used to signal the marked aspect (such as perfectivity or imperfectivity) explicitly. Eventually, these aspectual derivations crystallised into distinct, fully grammaticalised aspect stems (Clackson 2007, 134). If the Optative was formed *before* this occurred, that would provide a satisfactory explanation of why it does not occur with secondary stems. Since the Anatolian branch is known to preserve evidence for an aspectual distinction between the aorist and the present stems (Jasanoff 2003, 19; Clackson 2007, 135) this observation, if correct, would usefully constrain the lower bound for the age of the Optative, and provide evidence for its existence in PIE.

It deserved to be noted, however, that Clackson uses the same observation to argue the exact opposite. In his view the root formation of the Optative suggests a relatively *recent* grammaticalisation of the Optative gram. He suggests that if the gram in question was originally a primary, root formation – with a more lexical meaning, like the Desiderative – one might hypothesise that its limited ability to combine with the aspect stems indicates that it did not acquire modal uses until a relatively late point in the time (Clackson 2007, 136). The fact that the same argument can be made in both ways indicates the importance of being cautious in reading too much into these chronological indications. In this way, one’s view on the age of the Optative is inextricably entwined with one’s view on its source of the grammaticalisation of the Optative: if, as argued by Pinault (2015), the optative is the result of the grammaticalisation of an ancestral free verb, Clackson’s scenario is unlikely, and the date of the origin of the Optative must be referred to pre-PIE times.

The relationship between the Optative and the sigmatic aorist deserves particular mention here. As seen in section 2.4., in both Vedic and Avestan the sigmatic aorist takes a suppletive root optative (Beekes 1988, 159). In Jasanoff's view this provides direct evidence that the sigmatic aorist is younger than the Optative gram. He argues that an original *h<sub>2</sub>e*-conjugation aorist was contaminated with a suppletive third person singular from a present *s*-stem to create a paradigm that he labels "pre-sigmatic", of which the traces are preserved in the generalised Hittite sigmatic third person singular preterite and in the Tocharian *s*-preterite. It was only in core Indo-European that the *-s-* was analogically extended to the rest of the indicative and to the optative paradigms, and even here a few hold-outs (such as the Indo-Iranian Optative) preserve reflexes of the originally asigmatic nature of the paradigm (Jasanoff 2003, 174–214). Although this scenario would usefully constrain, or be constrained by, the age of the Optative gram itself, there is, again, no consensus on its accuracy (Lundquist and Yates 2018, 2165–66). With particular reference to the Optative, Melchert counters that the distinctivity of the Indo-Iranian root Optative can be explained as a branch-internal development: since the Indo-Iranian languages are known to have secondarily replaced root aorists by sigmatic aorists, the presence of vestigial root present optatives is not surprising (Melchert 2015, 132).

## 6. Conclusion

This thesis has provided a broad overview of the attested evidence for the Indo-European Optative. In the first two chapters, it analysed the reflexes of this gram in the key daughter branches, both from a formal and then from a functional point of view, and placed them within a theoretical and methodological framework proposed by typologically oriented research on modality. These findings made it possible to present a clearer picture of the formal and functional properties of the PIE Optative, and to evaluate a number of hypotheses on its deeper prehistory.

The final part of this thesis focused on the chronology of the Optative gram. Since the Optative is absent from the Anatolian branch, and appears to have left not even the most vestigial reflex in the attested languages of this branch, the question of whether it should be reconstructed as a PIE category in the first place is debatable. The issue is particularly salient in the case of the thematic optative, which does not appear to have existed in the Tocharian branch either. This, however, is likely to be reflective of the recency of the thematic conjugation, not of the Optative gram itself. In Hittite and Tocharian the thematic conjugation is present only in an embryonic form, if at all, and its great productivity in some later branches can certainly not be traced back to early PIE.

It is my impression that a majority of scholars who have commented on this issue would wish to reconstruct at least an athematic optative for PIE (Rix 1986; Jasanoff 2003, 2009; Kim 2018b). On the whole, the available evidence corroborates this view, but not so strongly as some of the scholars in question have implied. In particular, the absence of a plausible source construction for the Optative in the Anatolian branches – perhaps the consideration which has been emphasised most strongly in the literature – is a weak argument at best, since any element within a language can be lost in any language branch given enough time, including any reflex in the Anatolian branch of a hypothetical lexical source construction underlying the Indo-European Optative.

Of the other possible chronological indices which were reviewed in chapter 5 – including the apophony of the Optative, the endings taken by the Optative, and the stem types to which the Optative was formed – none turned out to be wholly conclusive. It deserves to be noted, however, that the most plausible of them place an *upper* limit on the date of the Optative, rather than a lower limit. In addition, the Optative, where it appears, seems to emerge as a relatively strongly grammaticalised morpheme even in the very oldest attested texts. All things being equal these observations suggest a higher age for the morpheme in question. Provisionally, therefore, it may be concluded that PIE is likely, though not certain, to have had an Optative gram which was lost in the Anatolian branch. Further research into the cross-linguistic diachrony of modality holds promise of bringing more clarity to this conclusion.

## *Abbreviations*

C	any consonant
R	any resonant ( <i>r, l, m, n, y, w</i> )
N	any nasal ( <i>m, n</i> )
V	any vowel
h <sub>x</sub>	any laryngeal
*	indicates a reconstructed form
> or <	indicates the direction of a change
/	indicates the phonological environment in which a sound law is effective
PIE	Proto-Indo-European
PNIE	Proto-Nuclear-Indo-European (also known as Core Indo-European)

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## *Abstract*

This thesis examines the reconstruction and development of the Proto-Indo-European Optative within the wider context of ongoing debates on the nature of the Proto-Indo-European verb system. First, it focuses on the attested reflexes of the Optative in the various branches of the Indo-European language family, both in formal and in functional terms. The functional description of the Optative in the oldest Indo-European languages is framed against general typological research on the diachrony of similar modal grammatical categories in modern languages. These findings allow for a more precise delineation of the probable properties of the Optative in the Proto-Indo-European parent language. In the final chapter of the thesis, attention goes to the chronological context of the reconstructed Optative modal suffix, in relation both to the diversification of the Indo-European language family, and to theoretical debate on the internal reorganisations of the Proto-Indo-European verb system.

## *Résumé*

Ce travail porte sur la reconstruction et le développement de l'Optatif proto-indo-européen et s'inscrit dans le contexte plus large des débats en cours sur le système verbal proto-indo-européen. D'abord, il se concentre sur les reflets de l'Optatif dans les différentes branches indo-européennes, analysés d'un point de vue formel ainsi que fonctionnel. La description fonctionnelle de l'Optatif dans les plus anciennes langues indo-européennes est ensuite mise en regard avec la recherche typologique sur l'évolution de catégories modales comparables dans des langues vivantes. Cette confrontation permet de cerner avec plus de précision les propriétés probables de l'Optatif dans la langue ancestrale proto-indo-européenne. Dans le chapitre final du travail est abordé le contexte chronologique du suffixe modal de l'Optatif reconstruit, non seulement dans la perspective de la diversification de la famille linguistique indo-européenne, mais également en lien avec le débat théorique sur les réorganisations internes du système verbal proto-indo-européen.

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